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Virtual Professorship: Intellectual Property Ownership of Academic Work in a Digital Era, The

Jed Scully
University of the Pacific; McGeorge School of Law

The Virtual Professorship: Intellectual Property Ownership of Academic Work in a Digital Era

Jed Scully*

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* B.A., J.D., University of California, Los Angeles. Professor of Law and Director of the Intellectual Property Program, University of the Pacific, McGeorge School of Law. An earlier version of this paper was presented to the 4th Annual Symposium of the DePaul School of Law Center for Intellectual Property Law and Information Technology in April 2003. The author gratefully acknowledges the editorial assistance of Lori Ash, J.D., 2003, University of the Pacific, McGeorge School of Law.

I. INTRODUCTION

The digital revolution and the Internet have significantly upset the traditional balances between a university and its staff over their respective ownership and copyright interests in their intellectual property. Generally, adjustments to these balances should be addressed by negotiating contract revisions with academic staff rather than by a university's assertion of copyright authorship rights to professorial output.

Periodically, universities make headlines and the evening news over various uses or purported abuses of computers and the Internet. In the early days of Napster, there were howls from the recording industry that college students were using the bandwidth power of fiber optics and Direct Satellite Links to rapidly download and exchange copyrighted popular music.[1] Before Napster, universities and their professors were complaining that digital entrepreneurs were posting course syllabi and verbatim lecture notes on the Internet. Some postings were supported by advertising, while others charged per download.[2] Some universities, alert to the possibilities for the potential profits of online distribution of fee supported course credit, moved vigorously to establish a digital marketing presence.[3]

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1. The Recording Industry Association of America (RIAA), as copyright proprietors of digital sound recording rights, has now moved to assert copyright liability over individuals who download music, by demanding that Internet service providers (ISPs) provide identification of subscribers alleged to have infringed their copyrights. *See In re* Verizon Internet Servs., Inc., 240 F. Supp. 2d 24, 44-45 (D.D.C. 2003) (ordering the enforcement of a subpoena, issued pursuant to the Digital Millennium Copyright Act (DMCA), served on Verizon, an ISP, seeking to identify an alleged infringer in an action arising from the downloading of songs).

2. Most commercial Internet class note websites that posted professorial notes without permission have disappeared.

3. *See infra* Part II.B.2 (discussing Arthur Miller's taped series for Concord University School of Law and Harvard Law School's response).

Universities have historically and traditionally experienced conflict between the applied arts and sciences, and a more theoretical and philosophical inquiry between the discovery of new technology and its application to their own operations. Face-to-face teaching and learning, and the dissemination of the fruits of education to a wider public audience have also created conflicts. The twenty-first century, which has brought information, knowledge, and technology within the reach of the entire world with the touch of an *Enter* key, now requires that universities reexamine their own roles as discoverers and disseminators of knowledge and technology. This new century also requires that adjustments be made between university professors and their employing and sponsoring institutions, so as to retain the historic balances and incentives to learning and discovery, which have existed in the United States for the past 150 years.

Universities are moving rapidly to assert control over professorial output by claiming copyright and intellectual property ownership over courses, as a way of producing income and of gaining increased control over professorial work product.[4] This article presents a hypothetical situation involving the late Irving Younger to demonstrate why university assertion of "course control" will fail as a matter of copyright law for legal and practical reasons.[5] University attempts to create their own rights to authorship will only result in confusion and litigation destructive to the core purposes of education. On the other hand, several well-developed legal theories can protect the university's legitimate interests in digital distribution of professorial output, including contract, the law of title, unfair competition, and trademark law. Commercial journalism provides just one contemporary model demonstrating how digital distribution and a work for hire system can preserve an employer's work for hire and a creator's copyright in his entrepreneurial works of authorship.[6]

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4. *See generally* Joshua Green, *The Online Education Bubble*, 11 AM. PROSPECT 32 (Oct. 23, 2000) (stating that there is concern that some administrators are "making up for budget shortfalls by tapping into" the commercial interests of education).

5. As one example, the California Legislature passed, and former Governor Davis signed into law, a statute creating a cause of action against any person for the appropriation of a lecture or performance without the permission of the lecturer/performer. The statute does not mention limiting liability against employers under "works for hire" contracts or agreements. Moreover, there is also no exemption that would limit the potential liability of the University of California or other State of California entities. (CAL. EDUC. CODE §§ 66450-66452 (West Supp. 2003) (enacted by Chapter 574)). There are a host of issues involving the interaction of the Copyright Act and improvisational works, some of which are derivative from copyrighted material, as well as state governmental immunity from the reach of the intellectual property provisions of the United States Constitution Article 1 Section 8, pursuant to the Florida Post Secondary Cases, and several cases since. *See* Fla. Prepaid Postsecondary Educ. Expense Bd. v. Coll. Sav. Bank, 527 U.S. 627 (1999).

6. N.Y. Times Co. v. Tasini, 533 U.S. 483 (2001).

II. THE PROBLEM OF THE VIRTUAL PROFESSOR

A. *Two Views of Academic Ownership in Cyberspace*

Distance learning long predates the digital age. Correspondence schools relied on the written authorship of course books and other materials, without the assistance of live instructors, and the interaction between student and teacher in the classroom. Comic book readers were exposed to the advertisements extolling the value of a legal education through the LaSalle School of Law, through which one could qualify to take the Bar Examination after passing exams based on twenty volumes of substantive material delivered by the U.S. Postal Service.[7]

For at least fifty years, the military has sponsored an extensive correspondence school curriculum leading to academic degrees.[8] Conventional correspondence instruction interaction with students function primarily through written questions, and instructor or staff feedback on examinations. Professional education in law, teacher training, medicine and other fields, has in recent years increasingly relied on satellite, addressed videocast, videotapes, or videoconferencing technology, combined with some limited possibility for interactive question and answer sessions by landline, FAX, or e-mail, as a supplement to live presentations.[9]

Many universities have seen the economic possibilities of delivering instruction off campus, either for specialized professional purposes, or as an alternative to regular on campus instruction.[10] The present record of success is mixed. The University of Phoenix is not a brick and mortar institution, but one that operates successfully from many franchised locations, as well as online.[11]

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7. The California Bar Committee states that, while the committee does not approve of, nor accredit correspondence schools, students who complete courses at a correspondence school (of which twelve are listed on the website) will be admitted to the California bar exam. State Bar of California, *Rules Regulating Admission to Practice Law in California* (Rule XIX § 8), *available at* http://www.calbar.ca.gov/state/calbar/calbar_generic.jsp?sImagePath=Bar_Exam.gif&sCategoryPath=/Home/Attorney%20Resources/Bar%20Exam&sHeading=Summary%20of%20Requirements%20for%20Admission%20to%20Practice%20Law%20in%20California&sFileType=HTML&sCatHtmlPath=html/Admissions_Rules-Regulating-Admission.html (last visited Feb. 20, 2004) (copy on file with the *McGeorge Law Review*).

8. Since 1972, the United States military has offered its servicemembers a variety of correspondence programs to obtain associate and bachelor degrees through Servicemembers Opportunity Colleges (SOC). Servicemembers Opportunity Colleges, *at* http://www.soc.aascu.org (last updated Feb 20, 2004) (copy on file with the *McGeorge Law Review*). SOC offers degree programs through more than 1,800 institutions. Moreover, many other institutions such as Community College of the Armed Forces and University of Maryland Extension Program have offered correspondence programs, including texts, syllabi, audiotapes and videotapes. *Id.*

9. In California, for example, Continuing Education of the Bar (CEB) offers online as well as satellite CLE courses. Continuing Education of the Bar, *at* http://ceb.ucop.edu/ (last visited Feb. 20, 2004) (copy on file with the *McGeorge Law Review*). Also, professional continuing education is in many cases a fairly lucrative field and provides income to academic teachers in addition to their institutional salaries.

10. Many universities offer extension programs, such as University of California at Davis, which are now mainstream income producers. UC Davis Extension, *at* http://universityextension.ucdavis.edu (last visited Feb. 20, 2004) (copy on file with the *McGeorge Law Review*).

11. *See* University of Phoenix, *at* http://www.universityofphoenix.com (last visited Feb. 20, 2004) (copy on file with the *McGeorge Law Review*).

Columbia University and NYU both attempted an online component that would lead to an academic degree, but abandoned the effort.

One of the most successful contemporary models of a virtual academic institution, operating entirely in cyberspace, is Concord Law School, owned by the Washington Post Company.[12] Its first graduates sat for the California Bar Examination in February 2003,[13] and both the California Committee of Bar Examiners and the ABA Section on Legal Education are considering what standards might be applied for non-residential online legal education.[14]

As the possibilities for additional income above that received from tuition-paying residential students have improved, university administrators have moved to assert ownership of courses, their content and copyright in creative works authored by professors, usually under a "work for hire" arrangement.[15]

Faculty, relying on tradition, custom, and principles of academic freedom, have sought to retain the derivative uses of their performance as teachers, lecturers, and authors.[16]

B. Virtual Professorships

1. The Afterlife of Professor Irving Younger: The Eleventh Commandment of Cross Examination: Never Assume That You Know the Copyright Status of a Creative Work.[17]

Very few students of evidence or advocacy have not been exposed at one time or another, either in law school or in advocacy continuing education programs, to the humorous exhortations of the "Younger Tapes." Professor Irving Younger died in 1988, but his stagecraft and his masterful ability to reduce trial complexities to easily remembered checklists have assured a long life for his

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12. *First Graduates of Online Law School Achieve 60% Pass Rate on California Bar Exam*, PR Newswire (May 27, 2003).

13. Ten graduating students took the California Bar Examination in February 2003; of those, six passed. *Id.*

14. *Id.*

15. See "work made for hire" definition in 17 U.S.C.A. § 101 (West 2000).

16. CAL. EDUC. CODE §§ 66450-66452 (West Supp. 2003); University of California, Policy on Ownership of Course Materials (Sept. 25, 2003), *available at* http://www.ucop.edu/ucophone/coordrev/policy/9-25-03copyright.html (last visited Feb. 20, 2004) (copy on file with the *McGeorge Law Review)*; University of California, Policy on Copyright Ownership, *available at* http://www.ucop.edu/ucophome/coordrev/policy/8-19-92att.html (last visited Feb. 20, 2004) (copy on file with the *McGeorge Law Review*); American Association of University Professors, Statement on Copyright, *available at* http://www.aaup.org/statements/Redbook/Spccopyr.htm (last visited Feb. 20, 2004) (copy on file with the *McGeorge Law Review*).

17. This belated addition to the "Ten Commandments of Cross Examination," first expounded to generations of lawyers and students of advocacy more than twenty-five years ago, would apply to his own inimitable, amusing and highly memorable presentations. I render no professional opinion on the actual copyright status of Younger's lectures, but merely to demonstrate the Byzantine complexities involved in the continuing distribution of copies of Younger's work.

audiovisual products, mostly in the form of videotapes. Most of these tapes were made contemporaneously with one of Younger's oral presentations to lawyer's groups and to law schools.[18] The earliest tapes still in active circulation in law school advocacy courtrooms date from the early- to mid-1970s.[19] They were filmed in black and white, and after repeated use and reproduction, the tapes have the fuzzy appearance of early kinescope recordings.

Let us assume for a moment that an advocacy instructor is preparing her syllabus for next year's class. She approaches the audiovisual department at her law school and inquires about the prospect of taking the old Younger videotape, modernizing it by converting it to digital format, then producing it in color on CD ROM and videotape. The purpose behind reproducing the Younger tape on CD ROM is that the entire course syllabus can then be placed in that format for students in the course. The CD ROM would also include audiovisual materials and handouts, thereby reducing the volume of paper materials and the clerical burdens used to produce them. The CD ROM would be produced on campus and sold in the bookstore at the cost of production.

At this juncture, copyright concerns should be making their way into the discussion of the feasibility of this project. Curbstone analysis might reflect the view that the black and white videotape, from the early 1970s, was never copyrighted, or if it was, it is now in the public domain.[20] The widespread distribution of this tape by those entities that copied the original videotapes and either expressly or permissively permitted its distribution thereby caused the uncopyrighted tape to be "published."[21] On these facts, the tape is certainly in the public domain, as are Shakespeare's sonnets and Dickens's American lectures.[22]

A more conservative analysis would hold that circulation of this tape within a closed educational environment in each law school or in each continuing legal education class would not have "published" the tape, and it remained an

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18. Philip P. Frickey, *Revisiting the Revival of Theory in Statutory Interpretation: A Lecture in Honor of Irving Younger*, 84 MINN. L. REV. 199, 199-200 (1999).

19. *Id.*

20. Several commercial sites sell videotapes of Younger's Ten Commandments. *See, e.g.*, The Professional Education Group, Inc., Irving Younger, *at* http://ssl.securewebserver.com/proedgroup.com/merchant2/merchant.mv?Screen=CTGY&StoreCode=SEC&Category_Code=IRV230 (last visited Feb. 20, 2004) (copy on file with the *McGeorge Law Review*).

21. 17 U.S.C.A. § 101 (West 2000). This section defines "publication" as:

> the distribution of copies or phonorecords of a work to the public by sale or other transfer of ownership, or by rental, lease, or lending. The offering to distribute copies or phonorecords to a group of persons for purposes of further distribution, public performance, or public display, constitutes publication. A public performance or display of a work does not of itself constitute publication.

Id.

22. Prior to the effective date of the 1976 Copyright Act (January 1978), publishing a work without notice registration and deposit would inject a potential copyrightable work into the public domain. N.Y. Times Co. v. Tasini, 533 U.S. 483 (2001); Copyright Act of 1909, Pub. L. No. 60-349, ch. 320, 35 Stat. 1075, 1081, superseded by 17 U.S.C.A. §§ 101-914 (West 1982 & Supp. 2003).

unpublished work at the time of the 1976 Copyright Act.[23] As an "unpublished" but fixed work of authorship, under the 1976 Copyright Act, the tape would attain federal copyright protection until approximately 2047.[24]

The widespread circulation of this tape prior to January 1, 1978, either by permission, or for educational uses by non-exclusive licensees, throws doubt on claims that the work was not published. In addition, there are undoubtedly several versions of this performed lecture.[25] Considerable global distribution is still being made of these videotapes, including various derivative and transformative uses.[26] Many of these versions apparently claim copyright in the name of the 21st century distributor.[27]

There are two basic questions to consider concerning plans to revivify Younger's Ten Commandments. First, what are the school's rights for continued use of the original, grainy, black and white video, assuming that they hold a continuing non-exclusive license to "perform" and archive the work for educational purposes?[28] Second, would these non-exclusive licenses include the right to colorize, modernize, and digitize the work? Would these educational purposes include the right to disseminate or distribute the work in a digital form beyond a single location? Can educational purposes include profit on the sale of specific material goods incorporating intellectual content?[29]

Now let us consider a more ambitious plan. Assume that there is a general consensus on campus that the 1970s black and white Younger tapes are free of a copyright claim when used for instructional purposes by law schools and continuing legal educational programs. Further consensus might conclude that digitizing and colorizing the tapes, and archiving them for further use, do not constitute a "transformative use," triggering derivative copyright, when used in

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23. 17 U.S.C.A. §§ 101-1332.

24. *See id.* § 101 (defining "fixed" as a work in "a tangible medium of expression"); *see also id.* § 302 (stating that copyright protection lasts for the life of the author plus seventy years).

25. Younger's Ten Commandments was given—and recorded or taped—several times during the course of his career.

26. *See* 17 U.S.C.A. § 101 (defining a derivative work as a "work based upon one or more preexisting works").

27. See, e.g., the National Institute for Trial Advocacy (NITA) distribution and Taecan.com offering NITA tapes for CLE credit at a course charge. Taecan.com, Courses: Catalog, *at* http://www.taecan.com/Courses/CourseCatalog.asp?ProviderRef=1501 (last visited Feb. 20, 2004) (copy on file with the *McGeorge Law Review*). But are NITA and Taecan.com claiming copyright for Younger's presentation or for their own distributive format of what is now a public domain version?

28. 17 U.S.C.A. § 101

> To "perform" a work means to recite, render, play, dance, or act it, either directly or by means of any device or process or, in the case of a motion picture or other audiovisual work, to show its images in any sequence or to make the sounds accompanying it audible.

Id.

29. Some of these questions can be answered with reference to the recently enacted TEACH Act (Technology, Education, and Copyright Harmonization Act of 2002, Pub. L. No. 107-273, 116 Stat. 1758, Title III, Subtitle C, 13301).

connection with face-to-face teaching programs.[30] Would providing each student a CD ROM of the syllabus, including the Younger video, be qualitatively or quantitatively any different than providing students with their own videotape of Younger?

Some advocacy instructors presenting Younger's commandments might go further with thirteen or twenty-three commandments. These "versions," purportedly authored after the effective date of the new Copyright Act, would be entitled to a compilation or derivative copyright for the non-public domain elements of their new work.[31]

Furthermore, suppose that the advocacy teacher, as a result of digitizing and revivifying Younger, now has the "new" Younger delivering a new presentation on the Ten Commandments of Direct Examination. His personality and delivery would be readily apparent and "clipped" or "sampled" from the public domain tapes, with an entirely new, and hopefully snappy and humorous, script. For just one moment, we will lay aside considerations of the rights of Younger, or his heirs in his personality and persona.[32] In light of the university administration's interest in "courseware," the next question is the ownership status of this newly morphed work. Assuming that the idea and script derived from the course instructor, and that the fixation by university staff fell within the normal parameters of university support for faculty production of authored works, copyright of this new work would presumably be carried by the faculty member.[33]

This same digitizing process for the purpose of producing a follow-up version of a public domain work becomes more complicated if this same advocacy teacher is considering using materials and audiovisual presentations made by her predecessor who retired in 2001, then began teaching for an online law school in 2002. If the copyright in those works of authorship followed academic copyright practice, then the derivative rights belong to the original author.[34] However, some version of a non-exclusive or "shop-right" license to use remains with the original law school and its academic staff.[35] A university's attempt to assert a copyright claim on this derivative "courseware" would fail even if the institution evaded the "teacher exception" and now claims the original was a "work for hire."[36]

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30. 17 U.S.C.A § 101.

31. *Id.* § 201. If Younger's tapes are in the public domain, all would have this right to copyright the original parts of their derivative works.

32. California recognizes rights in personality and persona. A 1979 California Supreme Court decision held that "the right to exploit name and likeness is personal to the artist and must be exercised, if at all, by him during his lifetime." Lugosi v. Universal Pictures, 603 P.2d 425, 431 (Cal. 1979). Additional rights in personality and persona have been recognized in the Berne Convention and state statutes, as well as case law. *Id.*

33. 17 U.S.C.A. § 201 (vesting copyright protection, at least initially, in the author).

34. *Id.* § 106.

35. Weinstein v. Univ. of Ill., 811 F.2d 1091 (7th Cir. 1987); 17 U.S.C.A. § 201(b).

36. *Weinstein*, 811 F.2d at 1094 (stating that in the absence of an agreement between the author and the

These are not stretched hypotheticals; similar situations occur everyday.[37] The issue is not the technical possibilities to recreate, reformat, redo, and fictionalize recognizable works, but rather, what is the university's administrative role, rights, and liability under copyright law to commission or authorize these derivative works and to what extent do these new works of authorship belong to the professor who created the works and gave them expressive content.

2. *Professor Arthur Miller Presents*

If it happens at Harvard, it quickly becomes metaphor. Arthur Miller, a long-time marquee professor at Harvard Law School, is also a long-time presentational entrepreneur. He hosts PBS telecast fora on legal, ethical, and public policy issues.[38] He authors treatises as humble as *Nutshells* and works as conventional as casebooks.[39] He has also presented bar preparation classes. One of his recent forays into online distance instruction landed him into a high-profile dispute with Harvard Law School.[40] The school took exception to his online appearances as a professor for Concord Law School during the same semester that he was teaching at Harvard.[41] Concord is a completely online digital law school, where lectures and discussion are streamed to students both in real time with synchronous discussion and chat rooms, and by more conventional asynchronous e-mail and response.[42] Harvard charged that Miller was teaching at two law schools simultaneously, with Harvard paying for his prominence and his exclusivity as a full-time professor.[43] Miller responded that he had simply prepared a set of videotaped "lectures" which were then streamed to students and that he was not "teaching" because there was no interaction between himself and all his Concord students.[44]

One can perceive a number of problems, many of them unstated, from Harvard's viewpoint. First, Concord is not a brick and mortar institution, but a

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institution, the author will continue to be the exclusive copyright owner).

37. Examples include rewriting Jar Jar Binks out of the *Star Wars Episode I: Phantom Menace*; parodies such as 2LiveCrew; music sampling; Everyman his own video and website producer with cuts, clips, links; music selection downloads for personalized CDs; DVD downloads of motion pictures and television and cablecasts with commercials redacted (Son of Sony).

38. Green, *supra* note 4, at 32.

39. *Id.*

40. *Id.*

41. In the fall of 1999, "Harvard Law School Professor Arthur Miller taped a series of [eleven] lectures and sold them . . . to Concord University School of Law," an online law school founded by Kaplan, Inc. Harvard administrators told Professor Miller that he had violated university policy by teaching at another institution without clearance or permission from Harvard. Miller argued that he was not "teaching" at Concord; his "videotaping [of] lectures was no different than publishing a textbook." "Harvard subsequently rewrote its guidelines to prevent others from following Miller online." *Id.*

42. Concord Law School, *at* http://www.concordlawschool.com.html (last visited Feb. 21, 2004) (copy on file with the *McGeorge Law Review*).

43. Green, *supra* note 4, at 32.

44. *Id.*

virtual reality school, which under currently operative ABA/AALS rules, would not qualify for accreditation.[45] While Harvard would not be driven by accreditation concerns itself, it most certainly would not wish to see its name, logo, and reputation linked to a digital business, with that business getting a free ride on the Harvard name for promotional and sales purposes. Harvard ordinarily does not register public complaints about the high-profile entrepreneurial and representational activities of its celebrity professors.[46] Nor would Harvard claim complete control over their professional output.[47] But the Miller case strikes at the root of what universities feel is their contractual bottom line with their professors: the exclusive right to assign them classroom teaching assignments within a contract period and the university's right to their exclusive podium teaching services.

For at least fifty years, universities have encouraged entrepreneurship on the part of their faculty and have engaged in recruiting wars to attract faculty who can bring logo names, research grants, and academic prestige to the hiring institution.[48] However, the unstated implication has always been that the entrepreneurial activities of professors need to support and parallel, and not conflict with, the university's academic plan and image. That brings the discussion back to an analysis of what are the respective interests of universities and their academic staff in digital education, such as, would Harvard be able to market Miller's videos without his permission? Not in California.[49]

III. THE UNIVERSITY AND THE NATURE OF ACADEMIC WORK

Among American society's major economic and cultural institutions, government and organized religion have a long history and set of customs and traditions that often operate separate and apart from the purview and supervision of the general legal system. The royal charters awarded to Oxford and Cambridge as self-governing corporations predate the British state and to some extent are exempt from Parliamentary statutes. The governance of the Inns of Court, the educational and collegial societies for barristers and judges, likewise enjoys privileges and immunities not available to other schools of law or professional

45. Association of American Law Schools, *The Association of American Law Schools Handbook* (2001).

46. *See* Green, *supra* note 4, at 32 (quoting Miller as stating that "[t]his is a radical change in policy that restricts our academic freedom").

47. *Id.*

48. *See generally* CLARK KERR, USES OF THE UNIVERSITY (5th ed. 2001). Dr. Kerr, who passed away in December 2003, remained an astute observer of the University of California, which he headed as President during the turbulent 1960s. Following his dismissal as UC President in 1967, for over thirty years thereafter Kerr served as a University of California, Berkeley professor and as head of the Carnegie Foundation for the Advancement of Teaching. Kerr's signature comment on his dismissal as President by then Governor Ronald Reagan was that he left the presidency as he entered it—"fired with enthusiasm."

49. CAL. EDUC. CODE § 66450(a) (West Supp. 2003) (enacted by Chapter 574) (stating that "no business . . . shall prepare . . . any contemporaneous recording of an academic presentation . . . by an instructor of record").

societies.[50] In the United States, the first universities were generally organized primarily to train clergy for the various denominations and were not generally viewed as controlled by either the state or later the federal government.[51]

A key feature of universities from their earliest development was that professors and scholars had great autonomy in what they taught, pursued, wrote, and researched. The earliest universities were organized by bands of itinerant scholars who gravitated to urban centers and retained the services of masters to guide them toward the completion of their studies for ordination or for other professional pursuits in science, medicine, philosophy, and law.[52] The university was more a facility, a place where instruction occurred, rather than a hierarchical structure in which administrators directed scholars. Today, the considerable autonomy exercised by the individual colleges of Oxford, vis-à-vis the levels of control which can be exercised by the central University administration, is a reflection of this earlier and ancient tradition.[53]

This situation changed significantly during the expansion of American society westward. The significant incentives under the Morrill Land Grant Act encouraged states to fund agricultural and engineering schools, teacher training institutions, and universities.[54] The use or sale of federal lands funded the incentives.[55] Among other requirements, institutions were required to provide military training for their male students.[56] These "land grant colleges" were frequently organized pursuant to state legislative enactment. Their governing boards were appointed by elected officials.[57] Nevertheless, the historic pattern of non-interference in the internal workings of the university academy was generally respected.

American colleges and universities moved toward the model of German universities in which professional university administrators directed the affairs of the various constituent teaching faculties, recruited students, and served as the buffer and financial agent between the teaching and learning function of the

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50. *See* KERR, *supra* note 48.

51. *See, e.g.*, Harvard University's 1650 Charter, *available at* http://pds.harvard.edu:8080/pds/service?id=240624&type=leaf&segno=1 (last visited Feb. 21, 2004) (copy on file with the *McGeorge Law Review*).

52. Robert de Sorbon founded the first endowed college, the University of Paris, to provide "quarters for theology students who were not friars." *See* COLUMBIA ENCYCLOPEDIA, Subhead Sorbonne (6th ed. 2001), *available at* http://www.bartleby.com/65/50/Sorbonne.html (last visited Feb. 21, 2004) (copy on file with the *McGeorge Law Review*).

53. Chris Patten, last British Governor General of Hong Kong, was elected Chancellor of Oxford, a prestigious position, but not an operational one. The principal academic officer is the Vice Chancellor.

54. For more information on the Morrill Land Grant Act of 1862, see http://usinfo.state.gov/usa/infousa/facts/democrac/27.htm (last visited Feb. 21, 2004) [hereinafter The Morrill Act] (copy on file with the *McGeorge Law Review*).

55. *Id.*

56. *Id.*

57. Article IX of the California Constitution calls for the appointment of the Board of Regents of the University of California, including the Governor, Lieutenant Governor, Speaker of the Assembly, President *pro tempore* of the Senate and the Superintendent of Public Instruction as *ex officio* members. CAL. CONST. art. IX, § 9(2).

university and its legislative and governance functions.[58] The longstanding scholarly tradition of independence in research and teaching, subject only to broad societal norms of propriety and limits on funding, continued in the American model of higher education.[59] University teaching and research, except for the sciences and medicine, was a low-tech activity until the dawn of the Internet. Faculty salaries rarely competed with the pursuits which individuals who had faculty qualifications could obtain in private practice or industry, or even in government or university administration. Income from the development and sale of teaching materials, and the occasional lecture or consultation, were one of the few, and usually not significant, income supplements. Revenue sources for faculty in the engineering, physical sciences, medicine, and agricultural field took a different path. Many early land grant colleges were organized as agricultural, mechanical arts, and engineering colleges in keeping with the dominant economic activity in the western two thirds of the country.[60] Using applied research and scholarship to increase the profitability and yield of agriculture and manufacturing linked the universities as partners, in fostering the phenomenal commercial growth of the country.[61]

As applied research by faculty led to the development of patentable processes, inventions, and products, ownership issues arose. Where product development was funded by agencies outside the university, the terms of the contract would specify ownership rights in intellectual property. The university administration, in its go-between role between faculty and outside agencies, negotiated favorable terms to all sides to encourage its faculty to produce patentable intellectual property and to encourage agencies to fund further research. One important point needs to be made here. The patent system vests ownership of a discovery in the inventor.[62] This fact requires that all parties with an interest in the discovery first negotiate with the inventor, rather than rely on a generalized "work for hire" principle to assert an ownership interest of its own, or to rely on the fact that the faculty inventor is an employee of the university.[63] For 150 years, the contract negotiation model for dividing patentable rights developed by university faculty between inventors, facilitators, beneficiaries, and funding entities has worked well for the benefit of all concerned.[64]

The marketing of intellectual product in disciplines other than agriculture, engineering, sciences, and medicine has had a rather more spasmodic history. Periodic governmental enthusiasm has resulted in government grants for the

58. KERR, *supra* note 48, at 36.

59. *Id.*

60. *Id.* at 12.

61. *Id.*

62. 35 U.S.C.A. § 111 (West 2000).

63. *Id.*

64. *See generally* DEREK CURTIS BOK, UNIVERSITIES IN THE MARKETPLACE: THE COMMERCIALIZATION OF HIGHER EDUCATION 140-41 (2003).

study of languages,[65] the training of foreign students, international and area studies, and even occasional subventions for the training of lawyers and judges. On occasion, these contracts have called for, or resulted in, copyrighted materials, books, films, and cultural products, as a byproduct or an expected outcome of contracted research, study, teaching, or scholarship. Here again, the terms of the contract specify ownership interests in the created works. Often, contracts specify that the research results are to be made available without any ownership claim.[66] In any event, neither professors, nor university administrators, nor granting agencies expected commercially marketable products to derive from these efforts before the arrival of digital distribution by the Internet ten years ago.

The mission of university arts and science faculties is the instruction of undergraduates, the training of graduate students, and the pursuit of scholarship and research in a faculty member's particular discipline.[67] University administrators recruit students, based on faculty developed admission criteria, and assign faculty to teach particular courses at particular times and places. Faculty advise students, grade and administer exams, and certify students for graduation and degrees. This much of a faculty member's work was specifically assigned. Research and scholarly activity, while required, was far more generalized in how it was to be accomplished, and what or even whether, useful results were to be achieved. The value of such research was generally evaluated by how it was received by teaching and research colleagues working in the same field or discipline.

A. The American University Teaching and Research Model 1860-1960

The passage of the Morrill Land Grant Act of 1862 enabled the rapid growth of public supported and funded state sponsored colleges and universities.[68] In return for providing military training and establishing schools for the applied and agricultural arts and sciences, states were granted substantial subsidies of public

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65. For example, consider the National Direct Student Loan program.

66. Where federal funding was involved, there would generally be no proprietary copyright claims. "Copyright protection . . . is not available for any work of the United States Government. . . ." 17 U.S.C.A. § 105 (West 2000). Prior to the enactment of the Bayh-Dole Act in 1980 which permitted universities and their researchers to claim proprietary patent rights for inventions developed with federal funding, there was much less incentive to orient basic university research for marketable applications. A contemporary example involves the application and use of a patented invention that serves as a diagnostic marker for BCE, so called Mad Cow Disease. The federal government does not currently require this test developed by a University of California, San Francisco researcher, and promoted by an off campus company with which he is affiliated. It is hardly surprising that this researcher, a Nobel Laureate in 1997 for medicine, has publicly stated his endorsement for the compulsory use of this testing procedure. Sandra Blakeslee, *Expert Warned That Mad Cow Was Imminent,* N.Y. TIMES, Dec. 25, 2003.

67. *See, e.g.*, University of the Pacific, Mission, *available* at http://www.uop.edu/about/educexper.asp (last visited Feb. 21, 2004) (copy on file with the *McGeorge Law Review*).

68. *See* KERR, *supra* note 48, at 33.

lands to support and endow these new schools.[69] Many states separated their traditional arts, sciences, and professional school curricula on one university campus, and later established a separate campus for engineering, teacher training, agriculture, and various applied arts and sciences.[70] The needs for trained pragmatic professionals to build the new America required institutions that used theoretical inquiry not merely for the discovery of new knowledge, but to find practical applications for discovery and invention.[71] It therefore became natural for the manufacturing and agricultural industries to look to these new technical institutions for the advancement of their own technology, as well as for ways to market and promote their industries.[72] Universities, and "Ag" schools particularly, partnered in the development of new crops, pharmaceuticals, and mechanical improvements.[73] Many of these improvements qualified for patent protection.[74]

The American patent system initially vests the patent right in the human inventor.[75] Corporations cannot file patent applications, although inventors routinely assign their rights to research and development entities, including universities, for marketing and exploitation.[76] During the mechanical era, the issue of ownership of the intellectual expression of a discovery, separate and apart from its application, rarely arose, except for the occasional dispute between academic inventors over credit for the discovery.[77] It was assumed that the explanation of the discovery and its promulgation injected it into the public discourse, as a part of the public domain, including research results.[78] Research results and discovery of new knowledge were "owned" solely by the researcher until they were critiqued by peer review, and then published and publicly disseminated.[79] If a practical and inventive application to these discoveries existed, then they could of course be patented and commercially marketed. There was a definitive functional distinction between the pursuit of new knowledge, the refinement of theory, and the promulgation and publication of results by the traditional arts and sciences of the university on one side, and the application of this knowledge to products and improvements for marketable and commercial uses on the other. This latter function traditionally developed in industrial and pharmaceutical laboratories, in agricultural institutes and colleges, in the

69. The Morrill Act, supra note 54.

70. For example, look at models of Kansas University, Kansas State, and various other teacher training schools.

71. *See* KERR, *supra* note 48, at 35-36.

72. *Id.* at 36.

73. *Id.* at 35-36.

74. *See* 35 U.S.C.A. § 115 (West 2000) (initially vesting patent rights in the inventor).

75. *Id.*

76. *See id.*

77. *See* Weinstein v. Univ. of Ill., 811 F.2d 1091 (7th Cir. 1987).

78. *Id.*

79. *Id.*

marketplace, and sometimes in university settings, particularly in health and the applied sciences.

Governmental needs and requirements, first envisioned during the Civil War, came back to campuses for technological solutions which could not readily be fulfilled in the marketplace, and began to move the parameters of university research toward problem-oriented solutions.[80] Specialized research institutes developed to find solutions to the agricultural problems of drought, overproduction, increased crop yields, and marketing issues. Labor relations institutes were established to devise strategies for resolving management, labor union, and work force dysfunctions. In the twentieth century, medical research, allied with the human laboratories provided by university-based medical schools, made substantial strides not only in the methodology of patient care but in the discovery, invention, and testing of pharmaceuticals and medical devices and procedures. The Manhattan Project, leading to the development of the atomic bomb, was a classic case of harnessing traditional university-based functions of theoretical research for the development of a practical usable technology.[81] World War II also saw universities enlisted as trainers of military officers for the prosecution of the War.

Prior to World War II, most land grant university funding derived from state legislatures, supplemented by tuition.[82] University earnings derived from the marketing of patentable products was modest. Partnerships between universities and commercial entities in the knowledge industry was limited, generally to the occasional partnerships between specific university academic departments with a marketable focus, like agricultural departments or veterinary schools, and their private market counterparts. However, the harnessing of the university core functions of research, discovery, and teaching, with the governmental and industrial requirements of the larger society became permanent as a result of World War II and its Cold War aftermath.[83]

The end of World War II and the eligibility of twelve million members of the armed forces to attain a federally subsidized college education completely changed the nature of university education.[84] This federal imprint brought with it the need to expand university teaching and research for specific societal and market-based objectives.[85] The percentage of university budgets provided by state governments, tuition, and federal tuition and research support tilted dramatically

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80. *See* KERR, *supra* note 48, at 3-4.

81. The Manhattan Project began at the University of Chicago, and since 1944 has been headquartered at the University of California.

82. *See* BOK, *supra* note 64, at 9-10.

83. *Id.* at 11.

84. In 1944, Congress passed the "GI BILL" for World War II veterans, federally subsidizing the education of members of the armed forces. Servicemen's Readjustment Benefit Act of 1944, Pub. L. No. 78-346, 58 Stat. 284; *see* http://www.gibill.va.gov (last visited Feb. 21, 2004) (copy on file with the *McGeorge Law Review*).

85. KERR, *supra* note 48, at 202-03.

toward federal funding.[86] By 1960, the budget of the University of California was derived two-thirds from federal sources and one-third from the state legislature. Even by removing the operating fund support for the Livermore and Lawrence Radiation Labs, and the atomic projects at Los Alamos, the federal government still supplied one half of the University's budgets.[87] Notably, these figures did not account for the tuition and educational subsidies paid directly to students through the World War II and Korean Conflict "GI Bills." The point is that the lines, once clearly drawn, between university teaching and basic research on one hand, and applied research and development of patented products on the other, became faint and evanescent. Even language and political science departments, certainly not thought of as in the forefront of developing commercially marketable applications for its research, were eager recipients of governmental grants to provide not only training but practical applications for governmental programs.[88]

During this period, the triad functions for a university professor were defined as teaching, research, and public service. Occasionally, the first function listed was that of research, and occasionally, teaching was omitted, if that meant the instruction of undergraduates.[89] Public service became defined not merely as providing *pro bono* services to the community, but as participating in extramural activities as consultants to government and commerce, in addition to or in supplement of their teaching and scholarly assignments. It was in this latter function, and occasionally as a result of their research functions in market-oriented academic departments, that individual faculty surfaced as inventors of marketable and patentable products. Contractual arrangements with contractors, granting agencies, and university departments usually defined the exploitation rights of the inventor/faculty member. Beyond patent, however, it was never assumed that the university had any intellectual property rights in the publication and dissemination of scholarship and research results unless it had specifically commissioned and funded the research, or sought publication through a university press.

B. The Uses of the Research University 1960-2000

1. Lessons from Clark Kerr and Paul Goodman

In 1962, Paul Goodman published his critique of the mid-20th century American university, rather idealistically titled *The Community of Scholars.*[90] He

86. *Id.* at 40.

87. *Id.*

88. NDSL (1960) National Defense Student Loans now National Direct Student Loans.

89. Rockefeller University as one example does not enroll students in undergraduate degree programs. Furthermore, many research universities employ substantial numbers of professional academic research faculty, normally grant funded, who do not teach, except in a mentoring capacity to junior research faculty.

90. PAUL GOODMAN, THE COMMUNITY OF SCHOLARS (1962).

describes the original idea of universities as a community where students wanted to learn and scholars wanted to teach, in a self-governing atmosphere largely independent of government and the outside world. Jefferson envisioned this model in his plans for the University of Virginia.[91] Goodman provides a good history lesson on how universities developed from their earliest beginnings in Bologna and Paris, to their contemporary counterparts. He notes that American universities are no longer directed by their faculties but by professional administrators who are responsive to the larger world of trustees and legislators.[92] These pressures lean in the direction of emphasizing marketable and professional skills in their curricula, rather than the study of theory and philosophy. He comments that "for the sake of both the university and the professions, the professionals must return and assume responsibility for the history and humanity of their arts by taking real places again on the faculty of the university."[93] University administrations, in Goodman's view, are too tied to the marketplace to assure the freedom of scholars and teachers to be the voice of universal reason and criticism.[94] His solution, idealistically, is for groups of scholars and teachers to "secede" from universities to return to the original university ideals of teaching and learning.[95] Other than bureaucratic pressures to conform to educational market requirements, he does not outline any role for the university in ownership of teaching or scholarly content.[96]

While Goodman was pursuing his critique of contemporary college education, Clark Kerr, then President of the University of California, outlined a different take on the modern American university, its faculty and its participating constituencies. He presented his ideas at "The Godkin Lectures" at Harvard University in 1963 and incorporated them into a book, *The Uses of the University,* which he updated nearly forty years later.[97] Kerr described the research university as the "marketplace for ideas."[98] He looked on the university administration as a broker between the support needs of the faculty, its students, the political pressures of legislators, and the general community, and the marketing of ideas and their useful products to government, industry, and business.[99] It was natural for Kerr to envision the role of university administrators in this way, since his academic background included significant service as an

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91. Indeed Jefferson's concept of the public domain for invention and discovery was very broad. As Jefferson once wrote, "the particular character of an idea is that . . . no one possesses the less because everyone possesses the whole of it. He who receives an idea from me receives [it] without lessening [me], as he who lights his [candle] at mine receives light without darkening me."

92. GOODMAN, *supra* note 90, at 138.

93. *Id.* at 139.

94. *Id.*

95. *Id.*

96. *See generally id.*

97. KERR, *supra* note 48.

98. *Id.*

99. *Id.* at 21-22.

industrial relations and labor-management arbitrator and mediator. He was indeed a metaphor for a research scholar and academic who put his investigations to practical professional use in industrial relations as a hybrid scholar practitioner. He saw professors as increasingly entrepreneurial in that their constituencies were both internal as teachers and researchers and external as consultants to business and government.[100] This reality was driven by the fact that adequate funding to support the research mission of the university, particularly in the sciences, could not be financed through tuition, and legislative pressures established funding priority for teaching and professional qualification.[101] Kerr described a model of the university that was inextricably linked to government and the commercial marketplace as the incubator of public projects and profitable products.[102] As the American economy moved from an industrial phase to a service and information-based economy, the linkage between the discovery of new knowledge and its adaptation to marketable and patentable processes and products increasingly was centered on university-based research.[103] At this juncture, it was not merely the professors who were increasingly entrepreneurial, it was the university administration that envisioned the marketing of knowledge products as a means for economically supporting its core functions. The patent system was well established in allocating ownership and royalty rights between inventor faculty members and the university. Two developments created a conflict of expectations as to proprietary rights over faculty work. One was the merger and overlap between copyright and patent created by patenting "business methods" and algorithms harnessed to practical application,[104] and the second was the digital revolution that affected virtually all knowledge and communication and enabled global distribution through the Internet.

Before we examine those phenomena, let us pause for a moment and consider the case, now thirty-four years old, which still provides the principal rationale defining the rights of a professor to the derivative uses of his lectures.[105]

2. *Professors and Common Law Copyright—The Lessons of* Williams v. Weisser

When Blackstone was appointed the first Vinerian Professor of Law in 1758 at Oxford, he prepared his commentaries initially in lecture format. He also took copyright in his lectures in their written form in his own, not the University's

100. *Id.* at 204.

101. Former California Governor Ronald Reagan complained, while governor, that professors should get back to the classroom instead of leaving undergraduate teaching to graduate students—an attitude that resonated very favorably with parents, students, and legislators.

102. KERR, *supra* note 48, at 70.

103. *Id.* at 4.

104. 35 U.S.C.A. § 101 (West 2000); Diamond v. Chakrabarty, 447 U.S. 303 (1980); State St. Bank & Trust Co. v. Signature Fin. Group, Inc., 149 F.3d 1368 (Fed. Cir. 1998).

105. Williams v. Weisser, 78 Cal. Rptr. 542 (Cal. Ct. App. 1969).

name. While some students took his lectures down verbatim, it would never have occurred to them that in reducing the legal philosopher's historical analysis of the common law to writing, they might have been considered "an author" in copyright terms, under modern American copyright law.[106]

The case of *Williams v. Weisser* arose forty years ago, and even today is the most lucid and clearly written opinion about the nature of academic work and the pragmatic and legal reasons why professors own the copyright in their own lectures. A bit of background is necessary to explain why this case maintains its contemporary relevance.

It is a fact of economic life that entrepreneurship grows on opportunities that do not "occur" to an ordinary consumer of goods and services. So too with Dr. Edwin Weisser, an optometrist in Westwood, who saw an opportunity to provide a service in the form of accurately transcribed and rapidly reproduced lecture notes for high enrollment survey courses offered at UCLA in the early 1960s.[107] These lecture notes, available within a day or two of the professorial performance, were not only a boon to the student who missed class, but to those whose transcription skills were nominal. It was argued with some accuracy that the availability of a transcribed lecture after the class would afford a student the ability to concentrate on the material as it was being offered, without the distraction of incomplete notetaking. Dr. Weisser was not the first lecture note entrepreneur. Legions of college students had and have availed themselves of Cliffs Notes and Charles and Mary Lamb's annotations to the plays of Shakespeare. Classic Comic Books visualized many of the plots of classic literature for the benefit of high school students in literature classes. Even verbatim lecture notes for rapid reproduction to anxious undergrads were anticipated by such commercial operations as FyBate Lecture Notes in Berkeley. It was also the case that many professors were either indifferent to the commercial distribution of their lectures in written format, anticipated the demand by distributing outlines to their students, or encouraged the practice by cooperation with the commercial note takers, particularly if they were also enrolled members of their classes. Few professors would view this ancillary activity as other than marginally profitable.

Professor Williams was an assistant professor of anthropology.[108] His survey courses were much admired and heavily enrolled. When he became aware that printed versions of his lectures were circulating among his students, he was upset, primarily because many of the thoughts, theories, and observations that he shared with students in his lecture and discussion were not yet refined for dissemination in printed form. It was as though conversational speech was

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106. An improvisational lecture, not derived from written or other prepared material, and not fixed in writing would vest copyright in the scribe who reduces the lecture to writing. Presumably, this would require at least the tacit acquiescence of the lecturer. 17 U.S.C.A. § 101 (West 2000).

107. *Williams*, 78 Cal. Rptr. at 543.

108. *Id.*

disseminated as completed and vetted research. Dr. Williams sought the assistance of UCLA's administration in legally preventing Weisser and his student agents from attending his classes for the purpose of taking and distributing virtually verbatim transcripts of his lectures.[109]

The University's response centered on the nature of the legal right which Williams claimed was invaded.[110] Barring attendance to William's lectures to members of the public or to students not enrolled in his class was simple enough, but what about regularly enrolled students who were rightfully in attendance, and who concededly were permitted, indeed encouraged, to take full and complete, even verbatim, notes. Were not these notes the physical property of the individual students?

Moreover, was not the intellectual content of the past performed lecture, transformed and converted into a physical product, becoming legal "property"? After all, a lecture, once delivered and listened to, was not thereafter owned by anyone. It might be embodied in the notes of the lecturer, but it only was stored in the memory and recollection of the members of the audience. If a member of the audience, thereby transformed her recollection into a tangible format, that derived version was owned by the transformer for two reasons: first, no one could own an idea or concept once transmitted to another, and second, any property right in the specific delineation of an idea or concept defaulted to the person who created or "authored" the specific format, from which it could be precisely and accurately reproduced in that format to another.

It certainly was also well recognized that a performer could control and set the conditions under which one could attend and experience a performance. Further, a performer could control the derivative and proprietary uses a member of his audience might make of attendance at a performance. This negotiated or assumed contract between lecturer and student was somewhat complicated by routine practices and customs in college and university classes. It was assumed that students would take notes, even complete or verbatim notes, as an aid to absorption of the material. It was not assumed that students would make commercial use of their written versions of the performed lectures. But here again, restrictions on student uses of their notes depended on an analysis of property ownership of the intellectual content embodied in the notes. The UCLA administration took the position that the lectures and lecture material were owned by the professor.[111] The professor was hired to teach a specific course, but not directed or commissioned to produce any particular tangible product. Teaching was, and is, a dynamic, interactive, communicative process which may or may not result in a tangible "product" such as written material, texts, videotapes, or

109. *Id.*

110. *Id.* at 544 n.1.

111. *Id.* at 544-45.

recordings. If such products result, it has always been assumed, contract restrictions excepted, that the products are the property of the teacher/lecturer.[112]

While UCLA could bar non-students from the lecture halls, policing the uses that legitimate students and auditors could and would make of notes and other material generated by attendance at lecturers was left to the professor. The federal copyright statute was of no assistance because Professor Williams had not prepared his lectures in written form for oral delivery, had not "published" them, and had not complied with the notice, deposit, and registration requirements of the 1909 Copyright Act.[113]

At this juncture, it is worth noting that before January 1, 1978, the effective date of the 1976 Copyright Act, federal copyright could not be claimed for unpublished works, that is, works which were not intended to be distributed in copies to a general audience.[114] Furthermore, federal copyright could not be claimed for works that had not complied with the formalities of registration, notice, and deposit.[115] This left vast bodies of work outside the scope of present copyright protection. The dividing line that existed between common law and state law copyright on one side and federal copyright protection on the other was whether or not a work was "published."[116] If a work was published, but had not complied with the requisite federal formalities, it fell into the public domain, and common law/state law copyright provided no protection.[117] There was a substantial body of authored works which were protected by common law copyright, including the exhibition of motion pictures,[118] public lectures, dramatic presentations including plays and musicals, music performances of all sorts, opera, ballet, and the like. The underlying material on which the performance was based, such as lecture notes, play scripts, screenplays, and musical scores, were not eligible for federal copyright protection unless they were produced in

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112. This assumption applies to college and university settings. In elementary and high schools, teachers and curricular specialists are indeed hired to produce written syllabi, course outlines, lesson plans, and texts, the intellectual property of which is owned by the commissioning school employer.

113. It would have been possible for Professor Williams to have secured protection for his written but unpublished lectures, under section 12 of the 1909 Copyright Act, thereby availing himself of federal copyright remedies, but Williams' whole point was that his lectures contained suppositions and untested ideas that he was not yet willing to commit to final form. Copyright Act of 1909, Pub. L. No. 60-349, ch. 320, 35 stat. 1075, 1081 (1909), *superseded by* 17 U.S.C.A. 101-914 (West 2000).

114. *See* N.Y. Times Co. v. Tasini, 533 U.S. 483, 494 (2001).

115. *Id.*

116. *See* CAL. CIV. CODE § 980 (West Supp. 2004).

117. *See N.Y. Times Co.*, 533 U.S. at 494.

118. Under the 1909 Act, section 12, unpublished works (such as motion pictures) could receive federal copyright protection, but they gave up their rights to an indefinite and unlimited term for common law copyright generally known as the right of first publication. Motion pictures, while reproduced in great numbers as prints, were exhibited, that is, performed, not sold, and therefore, not distributed to the general public. The motive for gaining federal protection for unpublished work was access to national enforcement for infringement through the federal courts. The terms for protection were twenty-eight years plus a renewal term of twenty-eight years if the formalities were fulfilled.

copies for general distribution to the public, with registration, deposit, and notice, and were thus "published."[119]

Williams' remedy was "common law," or more accurately, state law copyright.[120] He sought an injunction against Weisser to prevent the publication and dissemination of the printed version of his lectures as a violation of his common law and state law rights to be the first to "publish" his work.[121] Weisser's defense was that Williams didn't own the intellectual property in his lectures, either his students did and or it was the University's property as work for hire.[122]

Justice Otto Kaus did a masterful job in dissecting the history and nature of professorial lectures and the ownership of rights in these lectures. He pointed out the practical difficulties in assigning ownership of a lecturer's output to the university. Lecturers were itinerants, their offerings changed as they refined their theories; and ideas, theories, and discoveries were not the subject matter of property ownership in any event. Kaus firmly came down on the side of confirming the right of first publication in a professor's work product in unpublished written or lecture format as belonging to the professor creator.[123] Students were free to take notes, even verbatim notes; but they were proscribed from making commercial use of these versions without permission or license from the professor.[124]

Defendant Weisser argued that Williams's employment status required him to create copyrightable works, such as his lecture, and therefore, the university was the copyright owner, a remarkable assertion given UCLA's rejection of interest or ownership rights in professorial output.[125] Justice Kaus stated:

> This contention calls for some understanding of the purpose for which a university hires a professor and what rights it may reasonably expect to retain after the services have been rendered. A university's obligation to

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119. The doctrine of limited publication, that is, distribution in copies of a work of authorship, without complying with the formalities of federal copyright protection, was used by the courts to prevent works from falling into the public domain, when the copies were used for the purpose of putting on a performance, such as play scripts and screenplays, or for distribution to a limited and defined audience.

120. *See generally* Williams v. Weisser, 78 Cal. Rptr. 542 (Cal. Ct. App. 1969). Common law copyright was the right of an author to first publication of her work of authorship. This was the dividing line between works that could be and preemptively would be granted federal statutory copyright protection pursuant to Article 1 Section 8 of the United States Constitution and either protection of unpublished works by state law or their unprotected and free status because the works were in the public domain. Because works could not be "published" unless they were in a format suitable for general distribution to the public, there was an enormous array of written, recorded, and transcribed authored material whose legal protection was defined by state or the common law. Most states, including California, adopted the common law of England, except where modified by state or federal law.

121. *Id.* at 543.

122. *Id.*

123. *Id.* at 545.

124. *Id.*

125. *Id.*

> its students is to make the subject matter covered by a course available for study by various methods, including classroom presentation. It is not obligated to present the subject by means of any particular expression. As far as the teacher is concerned, neither the record in this case nor any custom known to us suggests that the university can prescribe his way of expressing the ideas he puts before his students. *Yet expression is what this lawsuit is all about.* No reason has been suggested why a university would want to retain the ownership in a professor's expression. Such retention would be useless except possibly for making a little profit from a publication and for making it difficult for the teacher to give the same lectures, should he change jobs.[126]

Kaus went on to point out the "undesirable consequences which would follow" from holding that the university owns copyright in a professor's lectures:

> Indeed the undesirable consequences which would follow from a holding that a university owns the copyright to the lectures of its professors are such as to compel a holding that it does not. Professors are a peripatetic lot, moving from campus to campus. The courses they teach begin to take shape at one institution and are developed and embellished at another. That, as a matter of fact, was the case here. Plaintiff testified that the notes on which his lectures were based were derived from a similar course which he had given at another university. If defendant is correct, there must be some rights of that school which were infringed at UCLA. Further, should plaintiff leave UCLA and give a substantially similar course at his next post, UCLA would be able to enjoin him from using the material which, according to defendant, it owns.
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> . . . .
>
> Another strange consequence which would follow from equating university lectures with other products of the mind which an employee is hired to create, is, that in order to determine just what it is getting, the university would have to find out the precise extent to which a professor's lectures have taken concrete shape when he first comes to work. Not even defendant suggests that a contract for employment implies an assignment to the university of any common law copyright which the professor already owns.[127]

The opinion could well have ended there, but Kaus reached back to cite several English cases that affirm a lecturer's rights to the copyright of his lectures

126. *Id.* at 546 (emphasis added).

127. *Id.*

against notetakers and publicists.[128] He even cited Blackstone's rights to copyright his lectures:

> One of the reasons why Lord Eldon assumed that professors have a common law copyright in their lectures was the historical fact that Blackstone had published the Vinerian Lectures under copyright: "Now, if a professor be appointed, he is appointed for the purpose of giving information to all the students who attend him, and it is his duty to do that; but I have never yet heard that anybody could publish his lectures; nor can I conceive on what ground Sir William Blackstone had the copyright in his lectures for twenty years, if there had been such a right as that; we used to take notes at his lectures; at Sir Robert Chamber's lectures also the students used to take notes; but it never was understood that those lectures could be published;—and so with respect to any other lectures in the university, it was the duty of certain persons to give those lectures but it never was understood, that the lectures were capable of being published by any of the persons who heard them."[129]

The baseline for common protection is a professor's lecture, which is meant to be performed. As such, it varies from time to time, and regardless of the suspicions of student auditors, it is rarely given or performed in exactly the same manner each and every time it is given. That is the precise reason why this kind of performance could not be copyrighted, unless the precise performance was fixed in writing or on film or audio, and distributed to the general public—not a limited audience.[130] If there was not a general distribution/publication, then it remained in the realm of an unpublished work and theoretically, there was no limit to the period in which the work could be exploited. A performer/professor had rather complete control of his lecture and the materials he generated to prepare it. A question could be raised about the status of the written work, prepared by the student, as a derivative and arguably transformative use of the lecture. Ordinarily, this form of work might well qualify for either common law or federal copyright, but for the fact that use was made of another's protective work in violation of an express or implied condition for attendance at the lecture. If conditions were not imposed on the taking and further use of notes at a lecture, then presumably copyright would reside in the person who fixes the intellectual expression in a tangible medium.

There are several important points to bear in mind about *Williams v. Weisser*. First, this case explained and interpreted the precise nature of academic work performed by university teachers and lecturers and ownership rights to this work

128. *Id.* at 547-48.
129. *Id.* at 547 n.7.
130. *Id.* at 546.

output.[131] Secondly, while this case did not interpret the parameters of federal copyright, because at the time that this decision was handed down, there was no statutory copyright protection for "unpublished" lectures, its reasoning and analysis about the ownership of academic work applied to the new 1976 Copyright Act which extended statutory protection to "unpublished" works embodied in a fixed format, such as lecture notes.[132] Each student in a university lecture was entitled to a copyright in her derivative version of a professor's lecture, subject to express or implied contractual restrictions on the commercial dissemination of her notes.[133] The lecturer was entitled to copyright in the lecture if the lecture was a derivative performance of notes or other material in a fixed format, whether published or not.[134] A lecturer's syllabus, outline, class handout, or 5x8 lecture notes were all accorded copyright status under the 1976 Copyright Act, so long as they represented a version of a work of authorship, fixed (written, filmed or recorded) in a tangible means of expression.[135] The only form of lecture that remained outside of federal copyright protection after 1976 was a wholly improvisational lecture, delivered without benefit of underlying notes, writings, or audiovisual material, and which was not contemporaneously recorded by notetakers, or by audiovisual means with the lecturer's permission.[136] To that extent, Kaus's analysis anticipated and arguably settled the nature of a lecturer's ownership rights for unpublished works under the 1976 Copyright Act.

Federal copyright literalists have assumed that the 1976 Copyright Act rewrote the common law and traditional assumptions regarding the ownership of academic work by enacting very specific provisions allocating copyright ownership presumptions among creator authors and employer authors when the work for hire provisions were rewritten in the 1976 Act.[137] Since professors squarely fit within the statutory definition of those authors whose works presumptively belonged to their employers, the assumption was that Congress had in mind a "one size fits all" philosophy in drafting section 201. There is no legislative history to suggest that this is the case. Interested parties and industries have had a strong and often dominating influence on copyright policy and statutory drafting. Educators certainly made their interests felt in the enactment of fair use modifications to the exclusive rights of copyright authors. But it was left to Judge Posner to suggest in dictum, that the "teacher exception" survived congressional rewrite of the "work for hire" principle enacted as a part of the 1976 Copyright Act. It was also a fact that universities either had not recognized, nor had they claimed copyright ownership of professorial lectures or the books

131. *See generally id.*
132. 17 U.S.C.A. § 106 (West 2000).
133. *Williams*, 78 Cal. Rptr. 542.
134. *Id.*
135. *See* 17 U.S.C.A. § 106.
136. *See id.* § 101 (not including performance in copyright protection).
137. *Id.* § 201 (West 2000).

and teaching materials derived from these performances after 1976. In many cases, universities by contract and/or policy confirmed professorial ownership and control of their work, unless the output was specifically commissioned by the university or by the terms of a contractual grant or research project.

It was not that universities were indifferent to the commercial potential for the spin-off products of university lecturers and teachers. With exceptions, textbooks, articles, published research findings, and the like were not highly profitable to the author, and were secondary to the enhancement of academic reputation, salary increases and promotions that accompanied a teacher's publication. To the extent that a university professor's written products were widely disseminated, the reputation of the employing university was enhanced as was its ability to attract top students, professors and research grants.

This university perspective began to change and accelerate as the historic dividing line between academic research, teaching, and publication began merging into the entrepreneurial interests of focused research and product development entities. Among the factors accelerating this change were the enactment of the Bayh-Dole Act,[138] the decline in state support for university instructional activity, the rise in economic importance of digital information and entertainment technologies, and university entrepreneurial developments, particularly in the health sciences, agriculture and biotechnology, and distant teaching and learning.[139]

C. *University Works for Hire and Rights of Authorship after Enactment of the 1976 Copyright Act*

The reasoning behind the confirmation of authorial copyright for academic employees affirmed in *Williams v. Weisser* continued without serious challenge or even inquiry after the enactment of the general revision of the Copyright Act in 1976.[140] Universities, while alert to the growing possibilities for entrepreneurial income derived from patentable processes and devices, did not assert any interest in claiming copyright interest in professorial output based on a "work for hire" rationale. There is nothing in the legislative history or discussion taking place prior to the passage of the 1976 Copyright Act which suggested any change in the basic relationships existing between academic employees and the universities which would either give copyright control or ownership over work product. It was, and still is, assumed, particularly at top-ranked universities, that a university

138. 35 U.S.C.A. §§ 200-212 (West 2000).

139. President-emeritus Clark Kerr, of the University of California, first documented early trends moving university-based teaching and research into a larger governmental and commercial environment in the 1960s in his *Uses of the University*, updated in 2001. KERR, *supra* note 48. President-emeritus Derek Bok of Harvard University has continued to chart these developments in his recently published *Universities in the Marketplace*. BOK, *supra* note 64.

140. 17 U.S.C.A. §§ 101-1332 (West 2000).

benefits from the dissemination of the scholarly output of its professors through outside lectures, books, monographs, articles, and even consultancies, through the increase in its institutional reputation, along with the increasing prominence of its publishing professors.

While the clear language of the "work for hire" provision of the Copyright Act[141] appears to vest copyright ownership in employing universities for their professors who write and publish copyrightable material, directly or as an adjunct to their assigned teaching and research functions, the more significant question is whether these specific copyrightable products are produced within the course and scope of a professor's employment contract. Are professors 24/7 employees? Are they hired with the assignment to produce publishable scholarship? A quick response would be yes. However, Justice Kaus in *Williams* pointed out that scholars are itinerants.[142] Thoughts, theories, and publishable material are collected, revised, published, and republished at many points and in many places in their careers. While there is a general requirement to engage in publishable scholarship, and to perform public and university service, there are generally no specific research assignments made or directions given.[143] As to teaching, classes are assigned, subject matter and course titles are defined, and general administrative directions are provided for the logistics of class presentation, examinations, and grading. Invariably, the selection of teaching materials and perspectives are left to the professor.[144]

For most academic authors, an academic reputation, and hence promotion and prestige, attaches to publication of one's research and scholarship in peer review academic journals. Compensation for the publication is rare, although an increase in professional reputation often is reflected in higher salaries and promotional opportunities in one's university or at another institution. Most active scholars regard themselves as part of a peer group that not only includes members from their own university but from all other universities where colleagues are actively pursuing and publishing scholarship in a shared field or specialty. To that extent, the institution, which is paying your salary, is not your primary identification. It is the community of scholars engaged in your specific pursuits, wherever they may be. The essence of this research community is to publish and share their research results without proprietary assertions of

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141. *Id.* § 201 (2000).

142. Williams v. Weisser, 78 Cal. Rptr. 542, 546 (Cal. Ct. App. 1969).

143. The situation is clearly different where a research or scholarly project and its output is specifically commissioned by the university or a granting agency. In these cases, specific contractual provisions will determine the ownership and copyright interests in the authorial work.

144. A typical professorial letter of appointment might read: "_____ is appointed Assistant Professor of History for the Academic Year 2001, at an annual salary of $____"; or "Your appointment as Assistant Professor is continued for the Academic Year 2001 at an annual salary of $_____"; or if tenured, "Your continuing appointment is confirmed" etc. Attached to this letter is usually a sheet outlining the teaching assignments for the year and any specifically commissioned duties to be performed: acting as the chair of the appointments committee, as department chair, or a special commission to produce a specific piece of work such as orchestral performances in a music department.

intellectual property rights, including copyright. Increased funding and salary enhancements are peripheral benefits of an established and published scholar, but ordinarily not as royalties paid for reproduction of that scholarship.

The academic teacher moves in a more closed environment. Her reputation as a good teacher is generally best known and appreciated by her students. Publication of research results may occur within the confines of the teaching classroom, but is often an adjunct to instruction. The production of texts, casebooks, and teaching materials specifically developed for instructional use are an exception. Here, academic reputations may also be made by other institutions adopting the texts and materials developed by an academic author. Since virtually all of these materials are developed over time by an instructor teaching a specific subject and are often the distilled product of lectures and prepared performed class presentations, they would fit Daniel Defoe's classification of his authorship as the "brat of my brain."[145] The long-standing assumption would be that the teacher is hired to teach, a dynamic exercise performed before a group of students at a particular point in time. The notes and written prompts that she uses, including her own texts and supplemental materials, are her property. If she finds a commercial publisher to produce the text for wider distribution, the university's reputation benefits from the dissemination of its name and affiliation with the author. Profits and royalties, ordinarily nominal, are not considered as derived from, or appropriately claimed by, the university.

This is, and has been, the general protocol and contractual set of understandings that have formed the employment relationship between universities and their professorate. Prior to 1976, copyright issues with professors and their employing universities rarely arose because the basic raw material for teaching and the dissemination of teaching materials and research scholarship fell below the zone of protectable federal copyright. These materials were "unpublished," that is, if they existed in tangible and reproducible form, they would have been disseminated non-commercially and thus ineligible for copyright, or if widely disseminated without the formalities of deposit, registration, and copyright claims, they would have been thrust into the public domain. Remedies for commercial rip-offs of academic authorial work would have been handled, if at all, through the state courts on theories of unfair competition or common law copyright. This was the world of *Williams v. Weisser*.[146]

So what dictated change after 1976?

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145. Daniel Defoe led the charge to give writers some say in the literary trade. "A book, he argued, "is the Author's Property, 'tis the Child of his Inventions, the Brat of his Brain. . . ." Fair Play & Fair Pay: An ICA Event, *available at* http://www.epsg.org.uk/meetings/copyright2003/FPFP-Murphy.pdf (last visited Feb. 26, 2004) (copy on file with the *McGeorge Law Review*).

146. *See infra* Part III.B.2.

1. Basic Changes in the Nature of the American Research University

The worlds of market-based economic enterprise and of universities as incubators of intellectual thought, theory, and discovery remained separate for many centuries, but began to merge in the United States during and after World War II, as outlined by Clark Kerr in *Uses of the University*.[147] As noted previously, there had been a marriage of the practical professional arts and sciences in the establishment of land grant colleges a century earlier. In many cases these institutions were kept separated, administratively and geographically, from the liberal arts and science faculties and the law, medicine, and theology professional curricula which made up the big four tracks of medieval university education. The research in these new colleges and universities, often labeled as agricultural and mechanical institutes, was pragmatically directed toward finding solutions to contemporary technology constraints, more efficient breeding for plants and animals, better and less labor-intensive agricultural machinery, perfected engineering techniques for roads, dams, power plants and railroads etc.

Research begets discovery. Discovery begets applications, and novel applications beget desires for patent protection and marketability. This sequence clashes with the traditional university research culture, which fostered the submission of discovery to peer review and to publication and dissemination of research results. Rewards to the professorate were reputational and the monetary preferences which flow from this status.

The patent statutes require that a patent be taken out in the name of the inventor.[148] If the inventor is a professor, patent acquisition requires some contractual agreement between professor, university, and sponsoring organization on credit and royalty splits.[149] If the discovery and application were the result of governmental funding, then no patent could ordinarily be claimed and the general economy would benefit from its dissemination.[150] However, with the exception of engineering, the agricultural and mechanical departments, and to much less an extent the biological sciences, there were little or no profits to be made from the exploitation of patents. In addition, the primary reward for most academic inventors was their reputation among their peers for the free dissemination of their research. Published scholarship and peer review was the objective for all ambitious and status-conscious academics, whatever their academic field.

As far as other intellectual property exploitation possibilities were concerned, copyright and royalties were limited to published texts and general trade works. And once again, the primary reward for published scholarship and acceptance by

147. *See* KERR, *supra* note 48, at 36-37, 39-40.

148. 35 U.S.C.A. § 111(a)(1) (West 2000).

149. *Id.* § 116.

150. *Id.* § 202.

peer review was academic promotion and mobility within the university communities rather than payment of copyright royalties.

During World War II, the federal government enlisted the basic theoretical science faculties in mathematics, physics, and chemistry departments of major research universities to develop modern armaments including the atomic and hydrogen bombs.[151] Universities trained substantial numbers of officer candidates in arts, sciences, and professional skills needed for the war effort. These activities helped sustain the basic costs of the educational enterprise, and in time, became more and more of a factor in research university financing.[152]

Following World War II, the "GI Bill" represented the first sustained federal governmental subsidy for an option of university-based education and training for some twelve million men and women who had served in the armed forces.[153] The beginning of the Cold War followed right on the heels of the end of World War II, and the dynamics that drove governmental financing of research for war fighting technology continued, as well as more generalized support for research and development in fields as diverse as teaching, languages, political science, and organizational management.

These developments changed the nature of the universities from inward directed institutions that normally interacted only with other peer institutions to socio-economic players in the larger entrepreneurial and public policy world. State universities became less reliant on state legislative funding, and successfully solicited permanent funding relationships with governmental and private entrepreneurial entities. Research became more practical and short-term solution oriented. Discovery was prized and rewarded as much for its applications to contemporary issues as for the expansion of knowledge and theory.

Meanwhile, teaching became more professionally based. The idea was that a university education should train a person to assume specific economic functions in life beyond the obvious professional preparation of doctors, dentists, lawyers, and high school teachers. Education for life stretched beyond the baccalaureate degree and in various formats continued throughout a person's active life. Teaching became itinerant and moved beyond classrooms to conventions, continuing education seminars, and industrial colloquia. Spin off materials in the knowledge and education industries became capable of wide and virtually instantaneous dissemination.

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151. KERR, *supra* note 48, at 36-37.

152. For example, in 1964, the University of California's budget was $750 million of which $250 million was provided by the federal government for the operation of the various atomic energy commission facilities such as the Lawrence Radiation Lab and the Los Alamos, New Mexico facilities; $250 million was income from grants and sponsoring agencies for research (most of it from the federal government); and $250 million was support from the California Legislature. Negligible amounts came from student tuition.

153. At UCLA in the fall of 1949, about 17,000 students were enrolled, of whom 1,000 were graduate students. Some 10,000 of this number were veterans attending school under the GI Bill.

The idea began to develop that the teaching function of the university and its published scholarship adjunct had economic potential in a post-industrial economy—now referred to as the "information economy." Wealth could now be more easily created from the acquisition, manipulation, and dissemination of information through computers and the Internet than from the manufacture and distribution of tangible goods like razors and race cars.

Was there now a functional distinction between a research-oriented corporation developing software applications for manipulating DNA sequences and a computer science professor in an engineering school working with graduate students on the same problem under the terms of an industry or governmental research grant? The functional sidelaps seem obvious to the outside observer, particularly if the research results were financially marketable. The academic freedom of researchers was never thought to include substantial economic benefit to academic workers from these endeavors. It was simply this entrepreneurial tension between solution-based academic researchers and the free exchange of discovery results among the community of theoretical scholars and teachers that was well documented by Kerr,[154] and more recently by Derek Bok[155] and Corynne McSherry.[156]

Although the patent issues between academic inventors, their sponsoring entities, and their university employers had been resolved by contract, resolution of copyright and other intellectual property rights would become more difficult after the passage of the 1976 Copyright Act.[157] One reason was the definitive reworking of the "work for hire" provisions in the new Act.[158] The second reason was the elimination of the requirement that authorial work be publicly disseminated, registered, and deposited in book (or audiovisual) format to gain federal copyright protection.[159] At a stroke, lecture notes scrawled on one or more menu cards were copyrighted by virtue of their being penned on the cards. Through all subsequent permutations from lecture to syllabus, to outline, to supplemental material, to text, to audio tape, to audiovisual tape, or CD, the copyright continued and gained new and lengthier protection periods against use and dissemination.

Although the Copyright Act had changed, the academic culture had not. Universities did not know, or if they did, they did not care, to exploit their copyright power as employers, and continued to contractually affirm, explicitly or by custom, copyright in their academic authors. The computer and Internet wave was still to come.

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154. *See generally* KERR, *supra* note 48.

155. *See generally* BOK, *supra* note 64.

156. CORYNNE MCSHERRY, WHO OWNS ACADEMIC WORK? BATTLING FOR CONTROL OF INTELLECTUAL PROPERTY (2001).

157. *See* 17 U.S.C.A. § 201 (West 2000).

158. *See id.*

159. MCSHERRY, *supra* note 156.

2. The Bayh-Dole Act and the University Industrial Complex

It is not clear that the scholarly community completely understood the long-term effects of the Bayh-Dole Act[160] regarding the ways in which the lines between market-based entrepreneurial research and university research would be largely erased. This legislation removed the general restrictions on claiming patent rights for applications developed under federal sponsorship and funding. Prior to the Bayh-Dole Act, researchers generally published their discoveries and applications as part of the public domain, encouraged by a federal policy which disapproved of federal proprietary ownership of intellectual products generated under its sponsorship.[161]

The immediate impact was that university administrators devised ways to capitalize and license their federally-funded discoveries. They established intellectual property exploitation units to mine the research activities of the university and to encourage academic researchers to pursue patentable inventions and algorithms.

The academic culture of sharing research results among peers for the refinement and the development of new knowledge was weakened in fields where there were more immediate economic payoffs for marketable products. A researcher was hesitant to share discovery knowledge that would allow another researcher to capitalize economically on his/her basic research. Publication and peer review began to suffer and the academic marketplace began to look very much like the commercial marketplace in fields such as biomedical sciences, pharmacy, and computer-related applications.

The most visible aspects of this phenomenon were the issues surrounding the completion of the genetic maps for the human genome. Two parallel investigations were ongoing, one federally funded by a number of university and governmental scientific investigators under the auspices of the National Institutes of Health, the other by Celera, a private scientific research company.[162] Both sets of initiatives claimed completion at about the same time. The governmentally funded project was immediately published for peer review and for use by any and all, for any purpose. The Celera project results were not published, and the data sets and computer programs incorporating their findings were not disclosed except under license and confidentiality agreements.[163] If Celera could not make money on the discovery itself because they had simply uncovered a fact of nature, it could, and did, capitalize on the use of its databases.

Former academic researchers, or present academics under consultancy agreements, principally staff the entrepreneurial information industries. Conflicts

160. 35 U.S.C.A. §§ 200-212 (West 2000).

161. Exceptions were made for products and processes developed for national security purposes, such as atomic energy and weapons research.

162. For more information, visit http://www.celera.com/.

163. *Id.*

of interest and function between the free dissemination of discovery once characteristic of universities and the closed system of entrepreneurial competitive marketing of discoveries have been blurred by the universities' activities as entrepreneurs themselves. The Bayh-Dole Act merely accelerated these trends.[164]

3. *The Melding of Traditional Patent, Trademark, and Copyright in the Digital Era*

Traditionally, patent, trademark, and copyright occupied separate shelves in the intellectual property cupboard. Practitioners and academics in one area rarely crossed over to another subject any more than they might take up tax or antitrust practice. The coming of the digital era blurred those distinctions. Contemporary practitioners now consider a full drop-down menu of theories and areas of law in analyzing the rights and possibilities for authors, inventors, and information entrepreneurs. While patent requires something new, novel, and an advance on the present state of the art, copyright protects authorial expression of the new or the commonplace, including computer code expressed in binary electrical impulses.[165] Both of these monopoly systems have express constitutional status. Trademark protects images and evocations identifying the sources of goods or services. Trade secrets provide economic protection against disclosures in violation of an agreement. The various theories of contract and tort can be used to enforce or prevent the use of intangible intellectual ideas, expressions, and formulations that the legal system deems unfair, inequitable, or illegal.

The digital age, or more properly the binary age, creates significant crossover. While the "discovery" of the human genome may not be protected by the patent law from exploitation by others because there is no "invention" attached to this discovery of a law of nature, the protection by copyright of the precise expression used to document this discovery can prevent another from using this same expression.[166] If the expression exists in complex binary code, then a subsequent user will have to go to considerable effort to reconstruct another system for expressing this same discovery and will ordinarily be prevented from using any of the same expressive tools to deconstruct the original discovery in order to develop her own formulation.[167]

Insofar as the value of discovery consists in its expression, the world of the academic scientist and the academic scholar/teacher/lecturer begin to merge. University administrators who have developed an interest in exploiting their patentable intellectual property now begin to see that marketable opportunities are available in copyrightable products including lectures, distant learning and teaching, and publication of audiovisual and performed materials. While patent

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164. *See generally* 35 U.S.C.A. §§ 200-212.

165. 17 U.S.C.A. § 106 (West 2000); *see also id.* § 101.

166. *See generally id.* § 106.

167. *Id.*

always required the active cooperation of an inventor for exploitation, that is not the case for copyrighted works produced by employees in the course and scope of their employment—except that tradition, academic custom, and sometimes contract, held otherwise. The ownership of academic work, non-patentable work, is now on the table as a negotiation item between faculties and their employing universities.

4. *Business and Algorithm Patents: Re-imagining the Patent System*

A final factor which has accelerated an entrepreneurial culture in the university consists of the possibilities for economic gain occasioned by the proliferation of patent protection for so-called "business method" patents that provide protection for the expression, often in computer code, of new and unique ways of presenting information which can be applied to the solution of particular problems.[168] Patents were traditionally thought of as protecting industrial or mechanical enterprise. New methods for cutting hair were not protected by patent, although improved hair clippers might be. If however, a novel way of cutting hair is incorporated into a software program developed for beauty salons, there is the possibility of patent protection for such an "advance" on the prior art.[169] Before the incorporation of new and improved methods for performing established tasks and routines were incorporated into digital formats, it was assumed that if such methodology could not be applied to an industrial or manufacturing process for the production of tangible goods, then such examples of human ingenuity were outside the monopoly protection of the patent system, and would depend, for economic exploitation, on the legal theories of trade secret, contract, and unfair competition.[170] In most cases, human inventiveness entered the public domain seamlessly and the general society, rather than the specific innovator, benefited. Algorithm patents propelled by the digital revolution in information technology have led to explosive growth in the patent industry. Modern universities, as developers of abstract theory and practical applications for government and various sponsored research entities, saw the economic possibilities presented by mining business method patents. However, once again, contractual arrangements had to be made with the academic inventors, because the patents had to be initially filed in the name of the inventor rather than the employer.[171]

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168. 35 U.S.C.A. § 200.

169. *Id.*

170. In the stretched example of a software program developed to style hair, copyright would provide virtually no protection. The art form described, even if novel, would gain no copyright protection to prevent a subsequent user from availing herself of all of the new art form. Copyright would protect against the description of the art form *in haec verba*, and not even then unless there were alternative ways to describe the system. Baker v. Selden, 101 U.S. 99 (1879).

171. As discussed earlier, universities, in the absence of contractual agreements or protocols with

Until ten years ago, intellectual property discoveries and methodologies developed by academic workers were usually confined to the agricultural sciences, engineering, and biomedical science units. The expansion of patent protection to include algorithms now created entrepreneurial opportunities for the basic science departments, computer and information science units, business and professional schools, as well as the central administrative units themselves. In so doing, the academy on the hill became virtually indistinguishable from the business "campus" in the commercial valley. The critical question remained as to how to adapt the traditional work and compensation arrangements of university academic workers to conform to the parallel alignments with commercial knowledge industry businesses. Modern research universities were drawing less of their resources from state and local taxpayers and more from governmental entities, industrial and commercial clients, and their own entrepreneurial efforts.

The concept of academic freedom, in which there was little or no direction imposed on academic workers in the general direction of their research, assumed that best results would occur by allowing and encouraging peer review and shared information about theory and discovery.[172] The university's payoff would be reflected in reputation and enhanced opportunities to draw funding because of its successful academic workers. It was also believed that closer control of academic research and authorship would often result in itinerancy among its leading academics, so that the normal industrial model of ownership of "work for hire" products would not be effective.[173] As it happens, control of discovery output by digital workers in the commercial sectors of the knowledge industries has been problematic as well.[174]

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academic authors, could claim copyright for academic work under "work for hire" principles. 17 U.S.C.A. § 201 (West 2000).

172. American Association of University Professors, *supra* note 16.

173. *See* Pub. Affairs Assoc., Inc. v. Rickover, 369 U.S. 111 (1962).

174. Bringing the product of human imagination and discovery to market is clearly an easier process for entrepreneurial control when the product is tangible. However, when the value of the intellectual product is ephemeral and intangible, evidenced at most by digital code, disclosure to another, either ephemerally or in hard copy, must rely on a variety of legal theories for entrepreneurial protection. In essence, this is the philosopher's stone in academic research and discovery.

Admiral Hyman Rickover, the father of the nuclear navy, first identified this issue when he sued for copyright infringement of published versions of his speeches and articles analyzing the failures in the American educational system. The defendants argued that since he was a serving officer in the United States Navy on active duty, he was a twenty-four hour per day governmental employee, and that since the government could not claim copyright for Rickover's works of authorship, neither could he. The appellate court disagreed with the defendants and held that the course and scope of Rickover's duties for the Navy did not include promulgating his private theories on education. Even though a 24/7 employee, the Admiral was entitled to pursue his non-governmental copyrightable interests, and claim and enforce his copyright in these products. *Id.*

The Rickover case involved printed and recorded tangible copies and derivatives of the Admiral's output. However, the Rickover principle is applied, with more difficulty, to digital fixations of human authorship. A software engineer, employed by a dot.com company, would be hard pressed to limit her thinking to an 8 to 5 industrial workday. Inspiration occurs at odd hours, and not necessarily related to the assigned task. How much of that output can be claimed by an employer, and on what subjects, and with how much sharing of profit of the output between employer and employee?

John Henry Barlow has visualized this problem by describing the ideas and authorial expression as wine, which in economic ways cannot be effectively owned.[175] Wine bottles however are capable of substantial and precise ownership and control, and furthermore, no one can access the wine without purchasing the bottle. Intellectual property depends on describing, legally metering, and enforcing the traffic in bottles. Some containers hold premium vintages sold for top prices. More modest offerings, in the same kind of bottles, are sold for less or even given away. Because American/European legal systems rely heavily on physical tangibility to enforce "property" rights in intellectual property, Barlow's wine and bottle metaphor is quite useful.[176]

Whether patent monopoly will prove to be the most effective device for rewarding problem solving algorithms remains open to debate. After all, the issuance of a patent only insures its validity until challenged in federal court. On the other hand, patents do tend to chill competitors from pursuing closely related research and development. As far as university academic workers are concerned, the possibility of patents and their encouragement by university administrative entrepreneurs tends to change the traditional culture of sharing discovery results for peer review and critique, to the hording of research results in order to maximize commercial and proprietary applications. This change tends to blur the functional and value distinctions between universities as knowledge, discovery, and dissemination enterprises, and commercial research companies which sponsor the search for knowledge for specific marketable products and applications. This cultural split has caused many problems and there have been well documented attempts to distance the central academic enterprise from marketable products resulting from academic research through licensing and joint ventures with academic workers also operating commercial companies.[177]

5. *University Incentives and Pitfalls in Claiming Intellectual Property Rights in Works of Authorship*

Universities, as employers, may find that copyright ownership of works of authorship, while seemingly confirmed by statute, is not a benefit that they

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Assigning the principle of "work for hire" in which the employer receives the economic benefit of intellectual output for their workers' knowledge presents an awkward contractual fit, given the virtually limitless possibilities for human theoretical invention and discovery. Ideas and the intangible expression of them have traditionally been as difficult to own and control as cats. Lockdown might work in the short term, but human communication systems depend on the free and unfettered flow of idea and expression.

175. *See* John Perry Barlow Library, *at* http://www.eff.org/~barlow/library.html (last visited Feb. 27, 2004) (copy on file with the *McGeorge Law Review*); *see also* John Perry Barlow, *Selling Wine Without Bottles: The Economy of Mind on the Global Net, available at* http://www.eff.org/Publications/John_Perry_Barlow/HTML/idea_economy_artilce.html (last visited Feb. 27, 2004) (copy on file with the *McGeorge Law Review*).

176. For more on John Barlow, *see* John Perry Barlow Library, *supra* note 175.

177. For example, see Moore v. Regents of Univ. of Cal., 793 P.2d 479 (Cal. 1990) involving a dispute over the ownership of a patient's spleen cells by medical researchers and the University of California.

necessarily wish to exercise. Part of the issue, as discussed earlier, is one of control of the scope and specific direction of the teaching, published scholarship, and research function. This specific supervision conflicts with a culture of the freedom to explore, discover, and promulgate academic work without employer/employee and principal/agent legal constraints. Specific contract arrangements might work well enough in the patent field, but the default position for copyrightable products, conferred by statute, is that the employer is the copyright proprietor.[178] Open questions remain about whether a specific work of authorship is contemplated as being within the course and scope of academic employment, and here, we must look to contract and protocol for direction in specific cases.

However, if we assume that universities generally own or at least can control the copyright output of their academic employees, how is that control to be profitably and practically exercised. Using the *Williams v. Weisser* example, Professor Williams, when hired to teach anthropology at UCLA, brought with him a body of personalized theory, notes, and other material on which he based his teaching. Did UCLA own this preexisting material by virtue of his employment? Hardly. His academic and scholarly output began elsewhere, was refined at UCLA when he was employed there, and was influenced by the input of his students, UCLA peers, and those of his colleagues at other institutions around the country. This itinerant and fugitive nature of academic scholarship is a type of intellectual *ferae naturae*.

The texts, sourcebooks, and tradebooks produced by academic authors are often the product of multiple authors from several universities. The adoption possibilities of these materials as required texts for commonly taught classes is certainly enhanced the wider the authorial net is spread. Under these circumstances, it would be unwieldy and impractical for competing university entities to attempt to control authorship of a work produced by one of several co-authors, often with complicated provenance and authorial paternity. The practice of most universities is to settle for a credit line and reimbursement for other than normal support expenditure in the production of these works. This system has worked well enough until the proliferation of digital teaching materials and performances, and the extension of teaching through online distance and interactive teaching.

These latter elements, that is the professional production of audiovisual teaching materials and the production and dissemination of distant learning either in real or virtual time, requires resource investment well beyond the secretarial, library assistance, and research assistance necessary to produce a printed monograph, article, or trade book. Most academic workers do not have the production capacities to produces these digital materials without assigned and

178. 17 U.S.C.A. § 201 (West 2000).

expensive assistance. Cost and profit sharing with the employing university under these circumstances and assertion of a copyright interest is understandable.

Distant and online teaching is an area that also suggests contractual accommodation and refinement. The bottom line trade for professorial research and entrepreneurial time is the personal teaching of students within a classroom. Ordinarily, professors are permitted some time outside their assigned obligations to teach, research, and publish their scholarship, and engage in private consulting not in conflict with their basic university obligations. If this private conduct involves teaching, universities will frequently assert an express or protocol right to limit teaching that would appear to conflict with primary teaching conducted under contract with a university employer. This was the situation presented in the Arthur Miller case, discussed earlier, in which he asserted he was not teaching, merely lecturing, since other persons interacted with students and graded papers.[179] The real issue is to what extent a university can require or prevent a professor from presenting their teaching performances to a virtual or distant audience by asserting a copyright interest in this form of presentation. Copyright interests must be balanced against widely accepted and specific contractual protocols related to academic freedom and ownership of performed, but not published, works of academic authorship.[180] Even though the Copyright Act assigns statutory protection to fixed performances and the unpublished but tangible, fixed materials on which a teaching session is based, there remains the perception that a performance, whether fixed or not, is owned by the performer much as any human communicator "owns" her thoughts and speech, even if put in fixed form by another.[181]

Finally, there is the control and marketing element. If universities are to profit from the off-campus electronic dissemination of teaching, how should these additional profits be shared between academic teachers/authors and their employing universities? The Copyright Act, in assigning these decisional rights to employers, is an incomplete and unintended structure for balancing the rights of academic authors and academic institutions.[182]

179. *See infra* section II.B.2.

180. American Association of University Professors, *supra* note 16.

181. 17 U.S.C.A. § 110.

182. *See generally id.* § 201.

IV. RESTORING INTELLECTUAL PROPERTY BALANCES BETWEEN THE UNIVERSITY AND PROFESSORIAL CLAIMS TO WORKS OF AUTHORSHIP

The core function of a university professor rests on the dissemination of her expertise, that is, teaching. Teaching is a performing art. It is interactive, and each teaching session is a one of a kind performance, despite the technical ability to capture a single performance electronically. The electronic repetition of a teaching session, while format protected by copyright, is not valued in the same way by teachers or students as a "live" performance.[183] Professorially authored materials, which flow from teaching and allied research, are derivative of performed teaching. The actor, performer, teacher, and lecturer relied on their ability to secure and retain an audience to a one of a kind performance, not on the copyright protecting print authors and their publishers. There has always been an uneasy match, an uneasy tension between the world of the performer and the world and protections of the author. Indeed, the Copyright Act assumes that performance rights are derivative to the underlying written and copyrighted expression. Perhaps the starting point for restoring the intellectual property balance for copyrighted works of authorship between professors and universities is to recognize that the work of authorship begins with teaching, to which other written and fixed copyrightable formats are derivative, and not the other way round.[184]

We should briefly identify the factors that have distorted the traditional balancing of intellectual property rights between professors and universities. Until ten years ago, the basic dichotomy between the traditional university academic model of published, peer reviewed scholarship and discovery, in which there are no direct economic consequences in the dissemination of new knowledge, and the use of economic monopoly models to license or to partner with entrepreneurs for marketing applications of university-based research and discovery, tended to divide the social, theoretical, and basic science entities of universities on the one side and the applied arts, sciences, and professions on the other.

The increasing activities of the federal and state governments in funding application research became a major financial factor in the funding of nearly all degree-granting research universities. This process was initially driven by the requirements of mobilization of the entire economy during World War II and continued on various rationales throughout the Cold War.

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183. Note that Bar preparation classes advertise as a plus that some or all of their class sessions are "live." *See, e.g.*, BarBri of California, Course Locations, *at* http://www.barbri.com/states/ca/index.htm (last visited Feb. 27, 2004) (copy on file with the *McGeorge Law Review*) (distinguishing between live and video classes).

184. This is indeed the approach taken by Romero's bill (CAL. EDUC. CODE §§ 66450-66452 (West Supp. 2003) (enacted by Chapter 574)) and implicit in the leeway given instructional use of copyrighted material in the TEACH Act (Technology, Education, and Copyright Harmonization Act of 2002, Pub. L. No. 107-273, 116 Stat. 1758, Title III, Subtitle C, 13301).

The collapse of the Soviet Union and the end of the Cold War left American universities economically dependent on research and program governmental funding for major parts of their basic financial structure. Neither public universities nor private doctoral level research universities could support their basic operations through tuition revenue or even state legislative funding.

The end of the Cold War coincided with the development of the Internet and the establishment of the World Wide Web. For scholars, teachers, researchers, and the institutional university, these developments forever dismantled the ivy walls separating the university from the external entrepreneurial community, and the separations, porous though they were, between peer reviewed, disseminated scholarship and discovery traditions in academia, and entrepreneurial research leading to marketable products in the applied arts and science university units. These developments externalized the universities' functions and operations.

Universities, from their inception, were perceived as repositories of objectified research and discovery. Written records, archives, and libraries were essential to scholarly communication and advances. The democratization of knowledge, in that access to basic and source materials were now available to anyone with an Internet connection and a computer, created consumer demand for the dissemination of instruction in digital formats, either in supplement to, or in replacement of, closed classroom environments.

For the past 150 years, the basis for compensation for university professors has not generally relied on whether or not their scholarly work produced marketable and commercially viable by-products from teaching or public service. While scholarly reputation, which might reflect favorably on the employing institution, would certainly affect an individual professor's promotion and income, the relation between these factors was indirect. There were two exceptions. The publication of text, case and trade books and materials, generally thought of as an adjunct to teaching, were customarily assumed to be the property and the profit of professors. In the majority of cases, the profits were modest and insignificant. The second exception was royalty income derived from patentable products and applications. Here, as a matter of individual contract, academic inventors and their university employers shared royalties deriving from applied research. Before the passage of the Bayh-Dole Act, noted earlier, there was no strong incentive to market patentable applications developed with federal grant funding.[185] Private grant funding tended to cluster in the bio-medical, engineering, and agricultural research areas, and it was there that most university entrepreneurial activity centered.

Factors which blurred the traditional lines between basic research and scholarship and the applied arts and sciences, include the systemic reliance on research and grant funding from the federal government, the Bayh-Dole Act, the

185. *See* 35 U.S.C.A. §§ 200-212 (West 2000).

rise of the Internet, the democratization of research, lessened state government financial support, and pressures to extend teaching and learning beyond campuses. In addition, pressures on traditional peer reviewed scholarship—from privatized, entrepreneurial applications of knowledge and research—have also played a role in changing the culture of economic balances between university professors on one hand and their employing universities and research sponsors on the other.

As noted earlier, the structure of the patent system creates leverages in favor of inventors in that patent applications must be filed by the particular inventor herself, before there is any economic or beneficial assignment to anyone else.[186] The status of the professor/researcher/inventor as an employee does not vest, by that fact itself, patent rights in the employer. Contract provisions do set the terms for each particular patent and academic custom and tradition weigh in the direction of shared royalties after development expense has been recouped.

A professorial author claiming copyright in her work of authorship has different hurdles to overcome vis-à-vis the university. An employer has historically and customarily, been regarded as the "author" with full copyright to works generated by employees, particularly those works produced within the course and scope of employment. The employment status of an inventor is not relevant to the assertion of the patent right; but it is very central to ownership of copyright.[187]

Without reference to the specifics of the copyright statute, it has been traditional for universities to regard authorial work product, which is produced under general academic obligations to conduct scholarly research and publication, as the intellectual property of the author and to not claim copyright interest as an "employer." It remains an unresolved issue as to whether the "work for hire" provisions of the current basic copyright statute carry a "teacher exception" to employer ownership of copyright in works of authorship.[188] The weight of history, custom, and the few cases that touch on this issue would suggest that there was no congressional intent to reverse this 800-year-old presumption.

The copyright ownership issue might have remained moot and unexamined but for pressures to export campus instruction and teaching to distant locations. Digital export of teaching and learning from campuses also creates and accelerates the need for teaching materials, examinations, books and interactive dialogue in real or delayed time. Libraries become virtual, and instruction now requires equipment, staging, recording and distribution with the commitment of significant capital and personnel resources. All of these digital components carry a copyright tag and it is therefore of some significance whether these authorial

186. *Id.* § 111(a)(1).

187. *See* 17 U.S.C.A. § 201 (West 2000); *see also* 35 U.S.C.A. § 111.

188. *See* 17 U.S.C.A. § 201.

materials deserve to be classified as belonging to the original professorial author under the "teacher exception," or now fall under the claim of the university entity as employer.

A. *The Patent Analogy*

I have described the development of patentable products by university researchers as providing a workable contractual model for sharing rights under copyright between professorial authors and their employing universities. The contract model for copyright provides significant additional opportunities for university administrative entrepreneurs to craft distance teaching and digital marketing opportunities with larger levels of control over the final product by nominating a particular project as a "work for hire" specially commissioned by the university, much the same way that a grantor agency would set the general direction for a research project. This leaves the general distribution of digital products and services under the same "teacher exception" classification as hard copy published books and materials. Amending the copyright statute to expressly provide for the "teacher exception" developed in *Williams v. Weisser*[189] is problematic, given the shredding of the integrity of the basic 1976 Copyright Act under the influence of global, digital dissemination of authorial material beyond the reach of national copyright systems.

While contract appears to be the best approach to maintaining the historic balances between academic authorship flowing from teaching, while avoiding the unintended consequences of the "work for hire" definitions in section 101 of the 1976 Copyright Act, some may suggest that a more straightforward approach would be to seek amendment of the Copyright Act in order to specifically append the "teacher exception" to "work for hire." This approach might have been a pragmatic solution before the Internet and the possibilities of instantaneous global distribution of authorial content. It is now apparent that our domestic copyright statute is a leaky container for the enforcement of our national standards in a global setting from what was intended just one generation ago, as a unitary federal system for protecting copyright, by immunizing state actors from intellectual property liability.[190]

1. *The Melding of Patent, Copyright, and Other IP Rights in Digital Works*

The use of contract to set out and define the economic interests of an individual professor and the university in the professor's authorial output avoids the amiguities created by whether or not there is a judicially recognized "teacher

189. 78 Cal. Rptr. 542 (Cal. Ct. App. 1969).

190. *See* Fla. Prepaid Postsecondary Educ. Expense Bd. v. Coll. Sav. Bank, 527 U.S. 627 (1999).

exception" to the "work for hire" provisions of the Copyright Act after 1976. Further express contract provisions and implementing academic protocols reflect the tradition, custom and practice of universities since their inception.

An additional reason for relying on contract terms for ownership rights in a professor's authorship is that authoriship now also includes expressive intellectual material that may also represent a patentable invention in the form of a problem solving algorithm. If the algorithm is patentable, it is also possible that the expressive explanation of it, for example, in a data set or in computer code may also be copyrighted. Further, there might be elements of this work of authorship that could invoke trademark protection, moral rights protection and other parallel intellectual property interests.

Confusion in whether the patentable part of this authorial product must be produced directly on application of the inventor, and any copyright claim pursued either by an employer or the author, would be very disruptive to the nature of the protection sought and to whom the various rights would accrue. In a contemporary digital environment, the mix and match of authorship and invention, as well as parallel moral rights, and other entrepreneurial rights, suggest strongly that express contract terms, backed up by general university protocols and best academic practices should set out the respective interests of authorial professors and their employing universities.

2. *University Incentives and Pitfalls in Claiming IP Rights to Works of Authorship*

The university's ownership interests in patentable products, processes and devices are well covered by existing academic community contractual practices and changing relationships responding to competitive pressures can certainly be accommodated by contractual modification. It might seem that a university's legal position as an employer, of presumptive ownership of copyrighted "works of authorship" produced by its academic employees, would adopt policies asserting such copyright interests as either "works for hire" or "commissioned works."[191] It might also seem intuitive for a university to assert copyright ownership and control as a joint author of works of authorship, particularly where substantial resources have been invested in the production of the work. In some cases, this university control might take the form of asserting copyright ownership of a work as an employer, and then licensing rights of exploitation, use, or derivation back to the academic employee under certain circumstances.[192] Media industries, including music, television and film, and newspapers have either secured contractual assignment or waiver of any copyright interests from

191. 17 U.S.C.A. § 201.

192. Note that the University of Pacific Faculty Handbook Intellectual Property Policy provisions recite that intellectual property rights in courses belong to the university, but license them to faculty for some exploitation rights with respect to their own authored works.

their creative employees. Such agreements would specify what creative authorship projects were either in or outside the course and scope of the employer/employee contract.

The point is less whether universities have the right under the copyright laws to assert ownership of academic work product, but whether there are disadvantages and disincentives for doing so. Unlike the editors of a newspaper making reportorial assignments to its staff writers, direct assertion of control of the specifics of academic authorship by university administrators over academic staff is atypical. Occasionally, a work of authorship will be specifically commissioned by the university, but that is not the ordinary genesis of faculty-generated authored works. Many faculty generated works are co-authored with faculty at other institutions. Many authored works are initiated while employed at one institution and completed at another, or begun during non-contract periods, or on leave, or summer break. In many other cases, a university may not wish to officially endorse, as copyright owner, joint owner or publisher, views and content authored by one of its academic employees as a part of their general research and writing responsibilities. The present dividing line in the academic culture appears to be that universities will avoid a general assertion of authorship over faculty-generated works, unless such works are specially commissioned or require specific and unusual amounts of university resources in their production and distribution.

B. Moral Rights, State Law, and the Berne Convention

American copyright law from its earliest days was premised more on the alienability and marketability of rights than on continuing personal connections and control between an author and his work. The notion that an author after having parted with her economic interest in a work could still retain rights of control over use, misuse, attribution and patrimony was not acknowledged by federal copyright prior to the adoption of the Berne Convention and the Berne Convention Implementation Act in 1989.[193]

State law, under various theories, including copyright protection for unpublished works and works not designed for general distribution, has always provided some levels of protection for the personal reputation and connections between an author and the economic exploitation of her authorial work. Trademark, unfair competition, publicity and privacy theories, the law of titles, contract and defamation all were used in various ways to protect the equivalent of what is now known as the moral rights of an author.

193. On October 31, 1988, the Berne Convention Implementation Act (BCIA) was passed by Congress to set the stage for U.S. entry into the Berne Convention. The BCIA amended the Copyright Act of 1976 to bring U.S. law into compliance with Berne. Thereafter, the United States ratified the treaty itself, and acceded to the Berne Convention effective March 1, 1989. Berne Convention Implementation Act of 1988, Pub. L. No. 100-568, 102 Stat. 2853 (1988).

The federal copyright statute now provides limited protections for moral rights attaching to certain visual art works, under 17 U.S.C. section 106A. However, the Berne Convention Implementation Act asserts that between state and federal protection, the United States is in compliance with Article 6*bis* of the Berne Convention, requiring legal protection of moral rights.

A university's assertion of proprietary rights under copyright, as an employer of an academic worker, would ultimately have to consider the moral rights of the author in the derivative uses and distribution of a work, even if the university held sole intellectual property ownership. Questions as to whether or not a particular work can be changed, modified, or altered without the academic author's permission need to be considered. To date, the appellate cases that have arisen have usually dealt with the demolition or destruction of works of fine art, such as murals, appended or attached to buildings and other structures, in which copyright ownership was not held by the artist. State statutes, such as California's Art Preservation Act, California Civil Code section 987, supplement the limited federal provisions, but have normally upheld artist/author moral rights claims over an owner's rights to physical control of a work.[194]

It certainly is not clear that even where a university specifically commissions a work of authorship from an academic employee, or where a professor assigns her copyright to the university, that a moral right of paternity and integrity would still be retained by the author. This authorial control is now not just a matter of federal statute, or state law, but is assured by the Berne Convention.[195] Under these circumstances, it would probably be the most prudent course for universities to follow academic tradition and practice and affirm basic copyright protection to their employees for works produced under a general obligation to conduct research and publish their scholarly findings. Specific contract provisions to recover university costs and share marketable proceeds from academic authors of commissioned works should be the standard, and would lead to less conflict between university managers and their academic staff.

C. The Eleventh Amendment and State Universities

The last decade has seen significant shifts in constitutional jurisprudence in limiting the power of Congress to legislate in areas touching on the sovereign immunity of the states under the Eleventh Amendment. There is ample scholarly analysis and opinion examining the Supreme Court's general expansion of state entity immunity from congressional regulation under the Commerce Clause.[196]

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194. *See generally* CAL. CIV. CODE § 987 (West 2000).

195. *See* Berne Convention Implementation Act of 1988, Pub. L. No. 100-568, 102 Stat. 2853 (1988).

196. An excellent summary of this subject is provided by Shubha Ghosh, SUNY Buffalo, in his article, *Toward a Theory of Regulatory Takings for Intellectual Property: The Path Left Open After* College Savings v. Florida Prepaid, 37 SAN DIEGO L. REV. 637 (2000). An additional perspective from the viewpoint of state

The partial dismantling of unitary, national, federal schema for the regulation of patent and copyright by immunizing state entities from potential infringement liability has potential disruptive effects in intellectual property rights enforcement, and will lead to an inevitable balkanization of what was becoming a unitary national system. This process, if continued, will complicate United States efforts to comply with its treaty obligations under the Berne Convention and its ability to enforce our national intellectual property policy in global fora including the World Trade Organization and the World Intellectual Property Organization.

While state sovereign immunity under the Eleventh Amendment might be simply viewed as avoiding conflict between state and federal governmental functions that would not ordinarily implicate ownership and proprietary rights in intellectual property, there is a vast and growing body of intellectual property rights accruing to colleges and universities that are state entities and could therefore claim sovereign immunity under principles announced by the United States Supreme Court in the *Florida Prepaid Postsecondary Education* case[197] in patent cases and followed by the Fifth Circuit in *Chavez v. Arte Publico*[198] in copyright cases.

For example, the University of California is a state constitutional entity, not directly regulated by the California Legislature. The University of California's appointed governing body is their Board of Regents. Nearly two thirds of its operating budget derives in one form or another from the Federal Government. Its research activities, largely funded from federal sources, produce significant amounts of patentable products, devices, and methodologies. Prior to the passage of the Bayh-Dole Act in 1989, federal grants, which resulted in discoveries and potentially patentable products, were ordinarily placed in the public domain as the university's contributions to the advancement of knowledge.[199] The Bayh-Dole Act allowed universities, as federal research recipients, to claim intellectual property rights and to commercially exploit their research results, discoveries and products.[200] As a result, research universities have significantly ramped up their proprietary research activities in order to produce income that will partly offset declining state and federal funding support in other areas of their operations. For research universities, which are also state entities, relief from potential legal liability under the federal copyright and patent statutes provides them with significant competitive advantages over their private university counterparts. Further, there is certain to be an increase in state court litigation concerning intellectual property rights where state law provides claims remedies, as is the

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entities is explored by Sharon K. Sandeen in *Preserving the Public Trust in State-Owned Intellectual Property: A Recommendation for Legislative Action*, published in 32 MCGEORGE L. REV. 385 (2001).

197. Fla. Prepaid Postsecondary Educ. Expense Bd. v. Coll. Sav. Bank, 527 U.S. 627 (1999).

198. Chavez v. Arte Publico Press, 59 F.3d 539 (5th Cir. 2000).

199. The federal government cannot claim copyright for works of authorship it produces pursuant to 17 U.S.C.A. § 105 (West 2000).

200. 35 U.S.C.A. § 202 (West 2000).

case in California and many other states.

Fallout from recent Eleventh Amendment jurisprudence will be felt broadly in universities and colleges, and not just in the differential effects that immunity has between state university entities and private schools and colleges. The nature of academic research, publication, and peer review will change. Historically, research professors gained credibility, prominence, and promotion based on the publication of their research, followed by evaluation and critique by their academic peers. Now there are greater incentives to keep research results confidential, and if suitable exploitation arrangements between the researcher and the university cannot be worked out, to commercially exploit this research in the private market. Universities themselves, through their technology transfer and licensing offices, now frequently take the lead in commercial exploitation of university research. These developments are most felt in agriculture, the applied arts and sciences, and in the medical fields, although entrepreneurial fever can predictably spread to proprietary uses for copyrighted products.

D. Lessons from New York Times Co. v. Tasini[201]

Academic teachers and university administrators would not ordinarily look to commercial journalism for guidance on how to separate work for hire output on the part of professional workers, owned by the employer, and expressive works of authorship undoubtedly derivative of a journalist's employment, which are considered as copyright interests of the employee.[202]

The Supreme Court in *Tasini* ruled that transforming an independent contributor's print work of authorship to a digital format, stripped of its placement in the print version, was a violation of the author's derivative, copying and distributing rights.[203] Presumably, these digital rights could be granted by the author through a contractual assignment or license, but were not included within a publisher's compilation rights.

There certainly is room for university entities to assert copyright in works of authorship by professors and academic staff, which it has explicitly commissioned under contractual agreement, and/or in which the university has invested staff time and resources well beyond that customarily provided teaching and research faculty. This should not, however, lead to assertion of authorship claims over a professor's work product developed for a course presentation or for the

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201. 533 U.S. 483 (2001).

202. *See* Ken Auletta, *The Howell Doctrine*, NEW YORKER, June 10, 2002, at 59, stating:
> The Times . . . Web site, nytimes.com is the No. 1 newspaper site in the world. The Times . . . has relaunched Times Books, which had been a Random House imprint. The paper's correspondents will soon be told of a new policy that discourages staff members from submitting book proposals to other publishers. "We are putting more emphasis on New York Times writers giving Times Books a first crack at efforts growing from their work for the Times. . . . The guts of it is that we [the Times] want first refusal."

203. *Tasini*, 533 U.S. at 488.

commercial exploitation of works of authorship produced under a generalized obligation to conduct scholarly research and writing. Moral rights considerations, as well as many centuries of academic tradition and practice, state statutes such as the Romero bill, contract provisions governing patent exploitation, and the examples of contemporary journalism should guide university administrators in developing copyright policy rather than reliance on the uncertainties of the "work for hire" provisions of the Copyright Act.[204]

V. CONCLUSION

A. *Peering over the Rim of Cyberspace—Internet 2 and Immersion Reality*

The past decade has brought sea changes in the way in which professors discover and disseminate new knowledge both personally, through teaching, and in the various forms in which their writings and discoveries are published and experienced. The economics of research and the mining and marketing of research results have altered universities and the professorate in profound ways, one of which is a lessened reward system for teaching. Digital technology and the Internet, which has caused tremendous marketing changes in the way information and entertainment is communicated, has also affected university centered education. The walls of ivy enclosing campuses are now ephemeral, more useful to dress up a website than an accurate description of the separation of the university academic enterprise from the commercial information exchange market.

Maintaining balance between inducing creativity and new knowledge, with appropriate economic and cultural incentives, with public enrichment and enlightenment at low or no cost has always been bedrock American intellectual property policy. Universities in this new century are experiencing significant shifts in their primary role as service-providing educational institutions, supported by government and tuition-paying students toward assuming market share as an entrepreneurial provider of off-campus digitally distributed products and services. The products of the human mind and imagination, traditionally protected by copyright, have usually not been either specifically commissioned by universities or their granting agencies, nor understood as "products" owned by them, because their authors were academic employees.

"Distant learning" is now the fulcrum which some universities have used to change the basic balances between a creator's authorial rights and the university's rights to the creative output of its professorate. There is both a sense of threat by digital competitors to traditional brick and mortar institutions, and a sense of economic opportunity which is driving university attempts to assert ownership control of a professor's intellectual output.

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204. *See* 17 U.S.C.A. § 201 (West 2000).

So what lies ahead for the teaching functions of the university professor? Will she be replaced by robotic performances, distant online programmed instruction, virtual libraries, and website classrooms? Yes and No. Universities should look to the reactions of the media industries to various technological changes. The music industry shows signs of slow adaptation to a world without big box retailing of hard copy CDs in the dissemination of music, after the usual Luddite short-term responses. Live theater, live music, and live, interactive teaching will continue to grow and to thrive, side by side with a bewildering variety of supplemental methods for disseminating instruction and research.

Let us take a quick scan at a developing technology which has the capacity to change and enhance traditional face-to-face teaching during this next decade. The technology is referred to as Internet 2, or Remote Media Immersion (RMI). It takes the giant screen technology of IMAX and surround sound and links it with high speed end to end architecture for real time storage and playback of various transmissions within a shared network. Data transmission speeds are sixty times faster than present broadband cable or DSL speeds. Accommodating these transmission speeds will require a complete re-cabling of the country. On the other hand, there is no need for broadcasters, which further democratizes the spread of information on the Internet.[205]

Consider the implications of this technology for university teaching and research. It would be possible to gather a group in a seminar room outfitted with RMI equipment and that group could interact with another group in a remote location, but each of them would experience the real-time presence of their remote partners. In addition, it would be possible to construct a virtual image, a Professor Younger if you will, and have him join the conversation, although his part of the presentation would have to rely on a previous audiovisual script and/or artificial intelligence responses. The herky-jerky pauses and performances of present day streaming video technology would become as quaint as early 20th century silent films.

A professor in an RMI seminar is but one performer among a number of audience participants, all of whom are creating expressive content, fixed in a digital archive. Can a copyright scheme designed for printed books adequately assign proprietary rights in such a performed presentation? Analogies to motion picture productions have some relevance, in which the professor might parallel the activities of the writer, director, and principal performer. However, copyright in the motion picture world was held by the motion picture company, either because the production was produced by employees, or by purchase and assignment from various artistic collaborators. That model would not fit the realities of the academic enterprise.

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205. Remote Media Immersion is under development by the Integrated Media Systems Center of the University of Southern California Integrated Media Systems Center. For more information, visit http://imsc.usc.edu/research/.

Perhaps the timing is now right to rethink copyright for academic authors, taking into account a global, binary coded world, where no authorial expression survives without virtually instantaneous duplication, manipulation and reuse. Never have the frontiers of human expression become as boundless. Never have the opportunities for balancing incentives for intellectual creation with the constitutional mandates to "promote the Progress of Science and the useful Arts"[206] been as necessary are they are now, in our 21st Century, one world educational environment.

206. U.S. CONST. art. I, § 8, cl. 8.